Bruhat Bangalore Mahanagara Palike

Executive Engineer

Bytarayanapura Division

QUALITY REPORT

(7th & Part Bill)

Name of Work : PACKAGE NO-6 (CONSIST OF 14 WORKS)

Est. Cost: 1500.00 LAKHS
Job Code: 009-23-000003

MECADEZ
Insight Makes It Happen

Mecadez Core Technologies Private limited
Project Management Consultancy Services

Registered Office: No.80, Aniketana,14th 'B' Main, West of Chord Road, 2nd Stage, 2nd Phase, Mahalakshmipuram, Bengaluru-560086
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Mecadez Core Technologies Private Limited

Project Management Consultancy Services

Summary of Frequencies of Field Tests and Lab Tests Conducted

Name of the work: Package No.06 Consists of 14 Works

Job No: MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR

Contractor M/s SMLP Asphalts, Prop.Sri B B Umesha

Sl. No	Particulars of the Tests	Plain Cement Concrete (1:3:6)			
		Quantity Cum	Frequency of Tests	Tests Required	Tests Carried Out
I	**Cement**	58.48	OPC 43 Grade		
1	Consistency test		1Test / Source of Supply	1	1
2	Fineness test		1Test / Source of Supply	1	1
3	Soundness test		1Test / Source of Supply	1	1
4	Compressive strength test				
i	7-days		1Test / Source of Supply	1	1
ii	28-days		1Test / Source of Supply	1	1
II	**Fine Aggregates**				
5	Gradation test		1Test / Day	1	1
III	**Coarse aggregates**				
6	Gradation test		1Test / Day	1	1
7	Water absorption test		Regular Intervals	1	1
8	Impact test		1Test / Source of Supply	1	1

Note: Frequency of tests as per Specifications MORT&H, V Revision, Section 900.

Mecadez Core Technologies Private Limited

Consultant

Contractor

ASSISTANT ENGINEER

ASSISTANT ENGINEER

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Sangalore - 97

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Test Report
Consistency test

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
Mix Type	Plain Cement Concrete (1:3:6)
Contractor	M/s SMLP Asphalts, Prop.Sri B B Umesha
Test Method	IS : 4031 (Part 5) -1988 & Specification for Road & Bridge Works, MORT&H, Rev-V.
Location	Source of Material
Material	Cement
Sample No	1
Sample Collection Date	21/Nov/2022
Testing Date	22-Nov-2022

Sl. No.	Description	Trial 1	Trial 2	Trial 3	Trial 4	Trial 5
1	Weight of Cement	400	400	400	400	400
2	Percentage of water added (%)	27	28.5	29.5	30	31
3	Weight of Water (gm)	108	114	118	120	124
4	Initial Reading of Plunger (mm)	40	40	40	40	40
5	Difference (mm)	21	18	16	14	5

Results: Standard Consistency of Cement: 31.00%

Note:

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iv. Any query regarding the report must be reported immediately.

For Mecadez Core Technologies Private Limited

Authorised Signature

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

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Test Report
Fineness test

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
Mix Type	Plain Cement Concrete (1:3:6)
Contractor	M/s SMLP Asphalts, Prop.Sri B B Umesha
Test Method	IS : 4031 (Part 5) -1988 & Specification for Road & Bridge Works, MORT&H, Rev-V.
Location	Source of Material
Material	Cement
Sample No	1
Sample Collection Date	21/Nov/2022
Testing Date	22-Nov-2022

Sl. No.	Determination	Trial 1	Trial 2
1	Weight of Cement before sieve (gm)	100	100
2	Weight of residue retained on 90um sieve (gm)	5.4	5.6
3	Percentage retained (%)	5.4	5.6
4	Average Percentage retained (%)	5.50	

Results: Residue of cement is: 5.50 %
Comments: Maximum allowable residue by mass for ordinary portlad cement is 10%
Note:

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Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

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Test Report
Soundness test

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
Mix Type	Plain Cement Concrete (1:3:6)
Contractor	M/s SMLP Asphalts, Prop.Sri B B Umesha
Test Method	IS : 4031 (Part 3) -1988 & Specification for Road & Bridge Works, MORT&H, Rev-V.
Location	Source of Material
Material	Cement
Sample No	1
Sample Collection Date	21/Nov/2022
Testing Date	22-Nov-2022

Sl. No.	Description	Trial 1	Trial 2	Trial 3
1	Initial Distance between the indicator points of Lechatelier mould	11	10	11
2	Final Distance between the indicator points of Lechatelier mould	17	18	15
3	Difference or expansion	6	8	4
4	Average Differences or Expansion in mm		6.00	

Results: Difference in Expansion of Cement: 6.00 mm
Comments: Maximum allowable Expansion of cement is 10 mm.

Note:

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Assistant Executive Engineer
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B.B.M.P, Bangalore - 97

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Test Report
Compressive strength test

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
Mix Type	Plain Cement Concrete (1:3:6)
Contractor	M/s SMLP Asphalts, Prop.Sri B B Umesha
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Source of Material
Material	Cement
Sample No	1
Sample Collection Date	21/Nov/2022
Testing Date	3-Dec-2022

Cube	Cement Grade	Age at Test (Days)	Slump (mm)	Weight (kg)	Dimension (LxWxH)	Density (kg/m3)	Max. Load (KN)	Area (mm2)	Compressive Strength (N/mm2)	Average Sample (N/mm2)
1	43	7	-	0.857	70.6x70.6x70.6	2302	170	4984.36	34.11	34.31
2	43	7	-	0.894	70.6x70.6x70.6	2415	172	4984.36	34.51	

Results: 7-days Compressive strength of cement is 34.31 N/mm^2

Comments: 7-days Compressive strength of cement should not be less than 33 N/mm^2

Note:

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Authorised Signature

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Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

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Test Report
Compressive strength test

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
Mix Type	Plain Cement Concrete (1:3:6)
Contractor	M/s SMLP Asphalts, Prop.Sri B B Umesha
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Source of Material
Material	Cement
Sample No	1
Sample Collection Date	21/Nov/2022
Testing Date	24-Dec-2022

Cube	Cement Grade	Age at Test (Days)	Slump (mm)	Weight (kg)	Dimension (LxWxH)	Density (kg/m3)	Max. Load (KN)	Area (mm2)	Compressive Strength (N/mm2)	Average Sample (N/mm2)
1	43	28	-	0.875	70.6x70.6x70.6	2287.00	220	4984.36	44.14	44.34
2	43	28	-	0.894	70.6x70.6x70.6	2316.00	222	4984.36	44.54	

Results: 28-days Compressive strength of cement is 44.34 N/mm^2

Comments: 28-days Compressive strength of cement should not be less than 43 N/mm^2

Note:

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B.B.M.P, Bangalore - 97

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Test Report
Gradation test

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
Mix Type	Plain Cement Concrete (1:3:6)
Contractor	M/s SMLP Asphalts, Prop.Sri B B Umesha
Test Method	IS : 2386 (Part - 1) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Source of Material
Material	Fine Aggregates
Sample No	1
Sample Collection Date	21/Nov/2022
Testing Date	23-Nov-2022

Weight of Sample(gram): 200

Sl No.	IS Sieve Size	Weight retained	% retained	% Cumulative	Cumulative % of Passing		Remarks
					% Passing	Gradation limits	
1	10 mm	0	0.00	0.00	100.00	100	Gradation satisfies the MORT&H Zone ll Specification for PCC
2	4.75 mm	15	7.50	7.50	92.50	90-100	
3	2.36 mm	13.58	6.79	14.29	85.71	75-100	
4	1.18 mm	30	15.00	29.29	70.71	55-90	
5	600 µ	55	27.50	56.79	43.21	35-59	
6	300 µ	60	30.00	86.79	13.21	8-30	
7	150 µ	22	11.00	97.79	2.21	0-10	

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23-08-09

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Test Report
Gradation test

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
Mix Type	Plain Cement Concrete (1:3:6)
Contractor	M/s SMLP Asphalts, Prop.Sri B B Umesha
Test Method	IS : 2386 (Part - 1) 1963 & Specification for Road & Bridge Works, MORT&H, Rev.
Location	Source of Material
Material	Coarse aggregates
Sample No	1
Sample Collection Date	21/Nov/2022
Testing Date	23-Nov-2022

Weight of Sample: 4000 gms

Sl. No	I.S. Sieve size	Weight Retained (gm)	Percentage of weight Retained (%)	Cumulative Percentage of weight retained (%)	Cumulative % of Passing		Remarks
					Test Result	Gradation Limits as per MORT&H	
1	31.50	0	0.00	0.00	100.00	100	
2	26.50	368	9.20	9.20	90.80	85-95	
3	19.00	450	11.25	20.45	79.55	68-88	
4	9.50	881	22.03	42.48	57.53	45-65	
5	4.75	628	15.70	58.18	41.83	30-55	
6	0.60	849	21.23	79.40	20.60	8-30	
7	0.15	433	10.83	90.23	9.78	5-15	
8	0.08	328	8.20	98.43	1.58	0-5	

Note:

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For Mecadez Core Technologies Private Limited

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Test Report
Water absorption test

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
Mix Type	Plain Cement Concrete (1:3:6)
Contractor	M/s SMLP Asphalts, Prop.Sri B B Umesha
Test Method	IS : 2386 (Part - 3) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Source of Material
Material	Coarse aggregates
Sample No	1
Sample Collection Date	21/Nov/2022
Testing Date	23-Nov-2022

Sl. No.	Particulars	Computations	Test Numbers		Mean
			Test 1	Test 2	
1	Weight of SSD sample	W_1 g	763	763	
2	Wt of Basket Filled with Aggregates Immersed in water	W_2g	2034	2067	
3	Weight of Saturated Aggregate in water	W_sg = W_2- W_1	1271	1304	
4	Weight of saturated surface dry aggregate in Air	W_3 g	2069	2092	
5	Weight of water equal to the Volume of the Aggregate	W_3- W_s	798	788	
6	Weight of Oven dried Aggregate	W_4g	2030	2058	
7	Specific Gravity	W_4/(W_3- W_s)	2.54	2.61	2.58
8	Apparent Specific Gravity	W_4/(W_4- W_s)	2.67	2.73	2.70
9	Water Absorption	(W_4- W_3)*100/ W_4	1.92	1.65	1.79

Comments: Maximum allowable Aggregate Water Absorption value is 2.0%.

Note:
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For Mecadez Core Technologies Private Limited

Mecadez Core Technologies Private Limited

23-11-22

Authorised Signature

Assistant Executive Engineer
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B.B.M.P, Bangalore - 97

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Test Report
Impact test

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
Mix Type	Plain Cement Concrete (1:3:6)
Contractor	M/s SMLP Asphalts, Prop.Sri B B Umesha
Test Method	IS : 2386 (Part - 4) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Source of Material
Material	Coarse aggregates
Sample No	1
Sample Collection Date	21/Nov/2022
Testing Date	23-Nov-2022

Sl. No.	Determination	Unit	Trails	
1	Weight of empty cylinder, w1	gm	960	960
2	Weight of container filled with Aggregate, w2	gm	1235	1382
3	Weight of the Aggregate before compaction, (w2 - w1) = w3	gm	275	422
4	Weight of the sample passing through 2.36 mm IS sieves after Impact, w4	gm	92	90
5	Weight of the sample retained on 2.36 mm IS sieve after Impact, w5	gm	183	332
6	Aggregate Impact Value (w4 / w3)x100	%	33.45	21.33
7	Specified Limit	%	45.00	

Results: Average Aggregate Impact Value: **27.39** %

Note:

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B.B.M.P, Bangalore - 97

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Project Management Consultancy Services

Summary of Frequencies of Field Tests and Lab Tests Conducted

Name of the work: **Package No.06 Consists of 14 Works**

Job No: **MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR**

Contractor **M/s SMLP Asphalts Prop.Sri B B Umesha,**

Sl. No	Particulars of the Tests	M20 Concrete For Drain Raft			
		Quantity Cum	Frequency of Tests	Tests Required	Tests Carried Out
IV	Concrete				
1	Compressive strength test	49.72	1 to 5cum=1 sample 6 to 15 cum=2 sample 16 to 30cum=3 smaple 31 to 50cum= 4 sample 51cum and above= one additonal sample for every additional 50 cum or part therof	4	4
	7-days				
	28-days				

Note: Frequency of tests as per Specifications MORT&H, V Revision, Section 900.

Mecadez Core Technologies Private Limited

consultant

contractor

ASSISTANT ENGINEER

ASSISTANT EXE ENGINEER

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Concrete Compresive strength

roject Name	Package No.06 Consists of 14 Works
lient	Excecutive Engineer - Byatarayanapura Division
ob No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
lix Type	M20 Concrete For Drain Raft
ontractor	M/s SMLP Asphalts Prop.Sri B B Umesha,
est Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
ocation	Laboratory
laterial	Concrete
ample No	1
asting Date	30-Dec-2022
ested Date	6-Jan-2023

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	20	7	8.26	150*150*150	2447.41	333.00	0.0225	14.80	14.55	14.51
2	20	7	8.46	150*150*150	2506.67	321.00	0.0225	14.27		
3	20	7	8.27	150*150*150	2450.37	328.00	0.0225	14.58		
4	20	7	8.36	150*150*150	2477.04	326.00	0.0225	14.49	14.47	
5	20	7	8.29	150*150*150	2456.30	321.00	0.0225	14.27		
6	20	7	8.94	150*150*150	2648.89	330.00	0.0225	14.67		

esults: 7-days Compressive strength of Concrete is 14.51 N/mm2

omments: 7-days Compressive strength of M20 Concrete should not be less than 14 N/mm2

ote:

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The results relate only to the items tested.

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uthorised Signature

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

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Test Report
Concrete Compresive strength

roject Name	Package No.06 Consists of 14 Works
lient	Excecutive Engineer - Byatarayanapura Division
ob No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
ix Type	M20 Concrete For Drain Raft
ontractor	M/s SMLP Asphalts Prop.Sri B B Umesha,
est Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
ocation	Laboratory
aterial	Concrete
ample No	2
asting Date	30-Dec-2022
ested Date	6-Jan-2023

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	20	7	8.26	150*150*150	2447.41	326.00	0.0225	14.49	14.70	14.62
2	20	7	8.74	150*150*150	2589.63	330.00	0.0225	14.67		
3	20	7	8.69	150*150*150	2574.81	336.00	0.0225	14.93		
4	20	7	8.16	150*150*150	2417.78	331.00	0.0225	14.71	14.55	
5	20	7	8.34	150*150*150	2471.11	329.00	0.0225	14.62		
6	20	7	8.50	150*150*150	2518.52	322.00	0.0225	14.31		

sults: 7-days Compressive strength of Concrete is 14.62 N/mm2

mments: 7-days Compressive strength of M20 Concrete should not be less than 14 N/mm2

e:
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thorised Signature

Assistant Executive Engineer
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B.B.M.P, Bangalore - 97

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Test Report
Concrete Compresive strength

roject Name	Package No.06 Consists of 14 Works
lient	Excecutive Engineer - Byatarayanapura Division
ob No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
ix Type	M20 Concrete For Drain Raft
ontractor	M/s SMLP Asphalts Prop.Sri B B Umesha,
est Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
ocation	Laboratory
aterial	Concrete
ample No	3
asting Date	7-Dec-2022
ested Date	14-Dec-2022

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	20	7	8.35	150*150*150	2474.07	328.00	0.0225	14.58	14.79	14.71
2	20	7	8.83	150*150*150	2616.30	332.00	0.0225	14.76		
3	20	7	8.78	150*150*150	2601.48	338.00	0.0225	15.02		
4	20	7	8.25	150*150*150	2444.44	333.00	0.0225	14.80	14.64	
5	20	7	8.43	150*150*150	2497.78	331.00	0.0225	14.71		
6	20	7	8.59	150*150*150	2545.19	324.00	0.0225	14.40		

esults: 7-days Compressive strength of Concrete is 14.71 N/mm2

omments: 7-days Compressive strength of M20 Concrete should not be less than 14 N/mm2

te:

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AB-04

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B.B.M.P, Bangalore - 97

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Test Report
Concrete Compresive strength

roject Name	Package No.06 Consists of 14 Works
lient	Excecutive Engineer - Byatarayanapura Division
ob No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
ix Type	M20 Concrete For Drain Raft
ontractor	M/s SMLP Asphalts Prop.Sri B B Umesha,
est Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
ocation	Laboratory
laterial	Concrete
ample No	4
asting Date	7-Dec-2022
ested Date	14-Dec-2022

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	20	7	8.45	150*150*150	2503.70	330.00	0.0225	14.67	14.87	14.80
2	20	7	8.93	150*150*150	2645.93	334.00	0.0225	14.84		
3	20	7	8.88	150*150*150	2631.11	340.00	0.0225	15.11		
4	20	7	8.35	150*150*150	2474.07	335.00	0.0225	14.89	14.73	
5	20	7	8.53	150*150*150	2527.41	333.00	0.0225	14.80		
6	20	7	8.69	150*150*150	2574.81	326.00	0.0225	14.49		

Results: 7-days Compressive strength of Concrete is 14.80 N/mm2

Comments: 7-days Compressive strength of M20 Concrete should not be less than 14 N/mm2

ote:

. The results indicated above are based on the tests carried out on the sample at site.

. The results relate only to the items tested.

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12-12-09

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

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Test Report
Concrete Compresive strength

roject Name	Package No.06 Consists of 14 Works
lient	Excecutive Engineer - Byatarayanapura Division
ob No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
lix Type	M20 Concrete For Drain Raft
ontractor	M/s SMLP Asphalts Prop.Sri B B Umesha,
est Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
ocation	Laboratory
laterial	Concrete
ample No	1
asting Date	30-Dec-2022
ested Date	27-Jan-2023

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	20	28	8.57	150*150*150	2539.26	470.00	0.0225	20.89	20.64	20.67
2	20	28	8.49	150*150*150	2515.56	461.00	0.0225	20.49		
3	20	28	8.16	150*150*150	2417.78	462.00	0.0225	20.53		
4	20	28	8.35	150*150*150	2474.07	470.00	0.0225	20.89	20.71	
5	20	28	8.26	150*150*150	2447.41	465.00	0.0225	20.67		
6	20	28	8.31	150*150*150	2462.22	463.00	0.0225	20.58		

esults: 28-days Compressive strength of Concrete is 20.67 N/mm2

omments: 28-days Compressive strength of M20 Concrete should not be less than 20 N/mm2

ote:
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Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

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Test Report
Concrete Compresive strength

oject Name	Package No.06 Consists of 14 Works
ient	Excecutive Engineer - Byatarayanapura Division
b No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
x Type	M20 Concrete For Drain Raft
ntractor	M/s SMLP Asphalts Prop.Sri B B Umesha,
st Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
cation	Laboratory
terial	Concrete
mple No	2
sting Date	30-Dec-2022
sted Date	27-Jan-2023

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	20	28	8.62	150*150*150	2554.07	460.00	0.0225	20.44	20.53	20.63
2	20	28	8.74	150*150*150	2589.63	471.00	0.0225	20.93		
3	20	28	8.36	150*150*150	2477.04	455.00	0.0225	20.22		
4	20	28	8.95	150*150*150	2651.85	465.00	0.0225	20.67	20.73	
5	20	28	8.32	150*150*150	2465.19	462.00	0.0225	20.53		
6	20	28	8.55	150*150*150	2533.33	472.00	0.0225	20.98		

sults: 28-days Compressive strength of Concrete is 20.63 N/mm2

mments: 28-days Compressive strength of M20 Concrete should not be less than 20 N/mm2

te:
he results indicated above are based on the tests carried out on the sample at site.
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Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

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Test Report
Concrete Compresive strength

oject Name	Package No.06 Consists of 14 Works
ent	Excecutive Engineer - Byatarayanapura Division
o No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
k Type	M20 Concrete For Drain Raft
ntractor	M/s SMLP Asphalts Prop.Sri B B Umesha,
st Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
cation	Laboratory
terial	Concrete
mple No	3
sting Date	7-Dec-2022
sted Date	4-Jan-2023

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	20	28	8.71	150*150*150	2580.74	462.00	0.0225	20.53	20.62	20.72
2	20	28	8.83	150*150*150	2616.30	473.00	0.0225	21.02		
3	20	28	8.45	150*150*150	2503.70	457.00	0.0225	20.31		
4	20	28	9.04	150*150*150	2678.52	467.00	0.0225	20.76	20.81	
5	20	28	8.41	150*150*150	2491.85	464.00	0.0225	20.62		
6	20	28	8.64	150*150*150	2560.00	474.00	0.0225	21.07		

sults: 28-days Compressive strength of Concrete is 20.72 N/mm2

mments: 28-days Compressive strength of M20 Concrete should not be less than 20 N/mm2

e:
he results indicated above are based on the tests carried out on the sample at site.
he results relate only to the items tested.
his test report should not be reproduced except in full, without written approval of this laboratory.
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Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

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Test Report
Concrete Compresive strength

roject Name	Package No.06 Consists of 14 Works
lient	Excecutive Engineer - Byatarayanapura Division
ob No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
ix Type	M20 Concrete For Drain Raft
ontractor	M/s SMLP Asphalts Prop.Sri B B Umesha,
est Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
ocation	Laboratory
aterial	Concrete
ample No	4
asting Date	7-Dec-2022
ested Date	4-Jan-2023

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	20	28	8.81	150*150*150	2610.37	464.00	0.0225	20.62	20.71	20.81
2	20	28	8.93	150*150*150	2645.93	475.00	0.0225	21.11		
3	20	28	8.55	150*150*150	2533.33	459.00	0.0225	20.40		
4	20	28	9.14	150*150*150	2708.15	469.00	0.0225	20.84	20.90	
5	20	28	8.51	150*150*150	2521.48	466.00	0.0225	20.71		
6	20	28	8.74	150*150*150	2589.63	476.00	0.0225	21.16		

esults: 28-days Compressive strength of Concrete is 20.81 N/mm2

omments: 28-days Compressive strength of M20 Concrete should not be less than 20 N/mm2

ote:
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Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

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Test Report
Concrete Compresive strength

roject Name	Package No.06 Consists of 14 Works
lient	Excecutive Engineer - Byatarayanapura Division
ob No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
ix Type	M20 Concrete For Drain Wall
ontractor	M/s SMLP Asphalts,Prop. Sri B B Umesha,
est Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
ocation	Laboratory
aterial	Concrete
ample No	1
asting Date	7-Dec-2022
ested Date	14-Dec-2022

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	20	7	8.36	150*150*150	2477.04	326.00	0.0225	14.49	14.65	14.57
2	20	7	8.55	150*150*150	2533.33	333.00	0.0225	14.80		
3	20	7	8.46	150*150*150	2506.67	330.00	0.0225	14.67		
4	20	7	8.24	150*150*150	2441.48	329.00	0.0225	14.62	14.49	
5	20	7	8.46	150*150*150	2506.67	321.00	0.0225	14.27		
6	20	7	8.19	150*150*150	2426.67	328.00	0.0225	14.58		

esults: 7-days Compressive strength of Concrete is 14.57 N/mm2

omments: 7-days Compressive strength of M20 Concrete should not be less than 14 N/mm2

ote:

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Vidyaranyapura Sub Division
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PROJECT MANAGEMENT CONSULTANCY SERVICES

Test Report
Concrete Compresive strength

oject Name	Package No.06 Consists of 14 Works
ient	Excecutive Engineer - Byatarayanapura Division
ob No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
ix Type	M20 Concrete For Drain Wall
ontractor	M/s SMLP Asphalts,Prop. Sri B B Umesha,
est Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
ocation	Laboratory
aterial	Concrete
ample No	2
asting Date	7-Dec-2022
ested Date	14-Dec-2022

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	20	7	8.49	150*150*150	2515.56	325.00	0.0225	14.44	14.49	14.45
2	20	7	8.47	150*150*150	2509.63	327.00	0.0225	14.53		
3	20	7	7.49	150*150*150	2219.26	326.00	0.0225	14.49		
4	20	7	7.48	150*150*150	2216.30	321.00	0.0225	14.27	14.41	
5	20	7	8.58	150*150*150	2542.22	328.00	0.0225	14.58		
6	20	7	8.97	150*150*150	2657.78	324.00	0.0225	14.40		

esults: 7-days Compressive strength of Concrete is 14.45 N/mm2

omments: 7-days Compressive strength of M20 Concrete should not be less than 14 N/mm2

te:
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-12-09

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

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Test Report
Concrete Compresive strength

roject Name	Package No.06 Consists of 14 Works
lient	Excecutive Engineer - Byatarayanapura Division
ob No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
ix Type	M20 Concrete For Drain Wall
ontractor	M/s SMLP Asphalts,Prop. Sri B B Umesha,
est Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
ocation	Laboratory
aterial	Concrete
ample No	3
asting Date	15-Dec-2022
ested Date	22-Dec-2022

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	20	7	8.58	150*150*150	2542.22	327.00	0.0225	14.53	14.58	14.54
2	20	7	8.56	150*150*150	2536.30	329.00	0.0225	14.62		
3	20	7	7.58	150*150*150	2245.93	328.00	0.0225	14.58		
4	20	7	7.57	150*150*150	2242.96	323.00	0.0225	14.36	14.50	
5	20	7	8.67	150*150*150	2568.89	330.00	0.0225	14.67		
6	20	7	9.06	150*150*150	2684.44	326.00	0.0225	14.49		

esults: 7-days Compressive strength of Concrete is 14.54 N/mm2

omments: 7-days Compressive strength of M20 Concrete should not be less than 14 N/mm2

ote:

The results indicated above are based on the tests carried out on the sample at site.

The results relate only to the items tested.

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Vidyaranyapura Sub Division
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ertified Company

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PROJECT MANAGEMENT CONSULTANCY SERVICES

Test Report
Concrete Compresive strength

roject Name	Package No.06 Consists of 14 Works
lient	Excecutive Engineer - Byatarayanapura Division
ob No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
ix Type	M20 Concrete For Drain Wall
ontractor	M/s SMLP Asphalts,Prop. Sri B B Umesha,
est Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
ocation	Laboratory
aterial	Concrete
ample No	4
asting Date	15-Dec-2022
ested Date	22-Dec-2022

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	20	7	8.68	150*150*150	2571.85	329.00	0.0225	14.62	14.67	14.63
2	20	7	8.66	150*150*150	2565.93	331.00	0.0225	14.71		
3	20	7	7.68	150*150*150	2275.56	330.00	0.0225	14.67		
4	20	7	7.67	150*150*150	2272.59	325.00	0.0225	14.44	14.59	
5	20	7	8.77	150*150*150	2598.52	332.00	0.0225	14.76		
6	20	7	9.16	150*150*150	2714.07	328.00	0.0225	14.58		

esults: 7-days Compressive strength of Concrete is 14.63 N/mm2

omments: 7-days Compressive strength of M20 Concrete should not be less than 14N/mm2

ote:

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Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

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Test Report
Concrete Compresive strength

oject Name	Package No.06 Consists of 14 Works
ent	Excecutive Engineer - Byatarayanapura Division
b No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
x Type	M20 Concrete For Drain Wall
ntractor	M/s SMLP Asphalts,Prop. Sri B B Umesha,
st Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
cation	Laboratory
aterial	Concrete
mple No	5
sting Date	15-Dec-2022
sted Date	22-Dec-2022

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	20	7	8.77	150*150*150	2598.52	331.00	0.0225	14.71	14.76	14.72
2	20	7	8.75	150*150*150	2592.59	333.00	0.0225	14.80		
3	20	7	7.77	150*150*150	2302.22	332.00	0.0225	14.76		
4	20	7	7.76	150*150*150	2299.26	327.00	0.0225	14.53	14.68	
5	20	7	8.86	150*150*150	2625.19	334.00	0.0225	14.84		
6	20	7	9.25	150*150*150	2740.74	330.00	0.0225	14.67		

esults: 7-days Compressive strength of Concrete is 14.72 N/mm2

omments: 7-days Compressive strength of M20 Concrete should not be less than 14 N/mm2

ote:

The results indicated above are based on the tests carried out on the sample at site.

The results relate only to the items tested.

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Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

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Test Report
Concrete Compresive strength

oject Name	Package No.06 Consists of 14 Works
ient	Excecutive Engineer - Byatarayanapura Division
ob No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
ix Type	M20 Concrete For Drain Wall
ontractor	M/s SMLP Asphalts,Prop. Sri B B Umesha,
est Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
ocation	Laboratory
aterial	Concrete
ample No	1
asting Date	7-Dec-2022
ested Date	4-Jan-2023

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	20	28	8.47	150*150*150	2509.63	455.00	0.0225	20.22	20.47	20.73
2	20	28	8.91	150*150*150	2640.00	472.00	0.0225	20.98		
3	20	28	8.34	150*150*150	2471.11	455.00	0.0225	20.22		
4	20	28	8.49	150*150*150	2515.56	462.00	0.0225	20.53	20.99	
5	20	28	8.27	150*150*150	2450.37	470.00	0.0225	20.89		
6	20	28	8.64	150*150*150	2560.00	485.00	0.0225	21.56		

esults: 28-days Compressive strength of Concrete is 20.73 N/mm2
omments: 28-days Compressive strength of M20 Concrete should not be less than 20 N/mm2

ote:
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Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

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Test Report
Concrete Compresive strength

ject Name	Package No.06 Consists of 14 Works
ent	Excecutive Engineer - Byatarayanapura Division
o No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
x Type	M20 Concrete For Drain Wall
ntractor	M/s SMLP Asphalts,Prop. Sri B B Umesha,
st Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
cation	Laboratory
terial	Concrete
mple No	2
sting Date	7-Dec-2022
sted Date	4-Jan-2023

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	20	28	8.71	150*150*150	2580.74	464.00	0.0225	20.62	20.79	20.75
2	20	28	7.64	150*150*150	2263.70	472.00	0.0225	20.98		
3	20	28	7.94	150*150*150	2352.59	467.00	0.0225	20.76		
4	20	28	7.49	150*150*150	2219.26	472.00	0.0225	20.98	20.71	
5	20	28	7.94	150*150*150	2352.59	455.00	0.0225	20.22		
6	20	28	7.99	150*150*150	2367.41	471.00	0.0225	20.93		

sults: 28-days Compressive strength of Concrete is 20.75 N/mm2

mments: 28-days Compressive strength of M20 Concrete should not be less than 20 N/mm2

e:
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- he results relate only to the items tested.
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Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

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Test Report
Concrete Compresive strength

ect Name	Package No.06 Consists of 14 Works
nt	Excecutive Engineer - Byatarayanapura Division
No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
Type	M20 Concrete For Drain Wall
tractor	M/s SMLP Asphalts,Prop. Sri B B Umesha,
t Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
ation	Laboratory
terial	Concrete
nple No	3
sting Date	15-Dec-2022
sted Date	12-Jan-2023

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	20	28	8.80	150*150*150	2607.41	466.00	0.0225	20.71	20.87	20.84
2	20	28	7.73	150*150*150	2290.37	474.00	0.0225	21.07		
3	20	28	8.03	150*150*150	2379.26	469.00	0.0225	20.84		
4	20	28	7.58	150*150*150	2245.93	474.00	0.0225	21.07	20.80	
5	20	28	8.03	150*150*150	2379.26	457.00	0.0225	20.31		
6	20	28	8.08	150*150*150	2394.07	473.00	0.0225	21.02		

sults: 28-days Compressive strength of Concrete is 20.84 N/mm2

mments: 28-days Compressive strength of M20 Concrete should not be less than 20 N/mm2

te:
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Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

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MECADEZ CORE TECHNOLOGIES PRIVATE LIMITED
PROJECT MANAGEMENT CONSULTANCY SERVICES

Test Report
Concrete Compresive strength

oject Name	Package No.06 Consists of 14 Works
ient	Excecutive Engineer - Byatarayanapura Division
b No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
ix Type	M20 Concrete For Drain Wall
ontractor	M/s SMLP Asphalts,Prop. Sri B B Umesha,
st Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
cation	Laboratory
aterial	Concrete
ample No	4
asting Date	15-Dec-2022
ested Date	12-Jan-2023

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	20	28	8.90	150*150*150	2637.04	468.00	0.0225	20.80	20.96	20.93
2	20	28	7.83	150*150*150	2320.00	476.00	0.0225	21.16		
3	20	28	8.13	150*150*150	2408.89	471.00	0.0225	20.93		
4	20	28	7.68	150*150*150	2275.56	476.00	0.0225	21.16	20.89	
5	20	28	8.13	150*150*150	2408.89	459.00	0.0225	20.40		
6	20	28	8.18	150*150*150	2423.70	475.00	0.0225	21.11		

esults: 28-days Compressive strength of Concrete is 20.93 N/mm2

omments: 28-days Compressive strength of M20 Concrete should not be less than 20 N/mm2

ote:
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PROJECT MANAGEMENT CONSULTANCY SERVICES

Test Report
Concrete Compresive strength

ect Name	Package No.06 Consists of 14 Works
nt	Excecutive Engineer - Byatarayanapura Division
No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
Type	M20 Concrete For Drain Wall
tractor	M/s SMLP Asphalts,Prop. Sri B B Umesha,
Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
ation	Laboratory
erial	Concrete
ple No	5
ting Date	15-Dec-2022
ted Date	12-Jan-2023

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	20	28	8.99	150*150*150	2663.70	470.00	0.0225	20.89	21.05	21.01
2	20	28	7.92	150*150*150	2346.67	478.00	0.0225	21.24		
3	20	28	8.22	150*150*150	2435.56	473.00	0.0225	21.02		
4	20	28	7.77	150*150*150	2302.22	478.00	0.0225	21.24	20.98	
5	20	28	8.22	150*150*150	2435.56	461.00	0.0225	20.49		
6	20	28	8.27	150*150*150	2450.37	477.00	0.0225	21.20		

ults: 28-days Compressive strength of Concrete is 21.01 N/mm2

ments: 28-days Compressive strength of M20 Concrete should not be less than 20 N/mm2

:
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Project Management Consultancy Services

Summary of Frequencies of Field Tests and Lab Tests Conducted

Name of the work: Package No.06 Consists of 14 Works

Job No: MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR

Contractor M/s SMLP Asphalts,Prop.Sri B B Umesha,

Sl. No	Particulars of the Tests	T.M.T Steel of Fe550 Grade			
		Quantity in Tonne	Frequency of Tests	Tests Required	Tests Carried Out
I	Steel				
1	Tensile strength test	9.68	1 sample per source	1	1

Note: Frequency of tests as per Specifications MORT&H, V Revision, Section 900.

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CONSULTANTS CONTRACTOR ASSISTANT ENGINEER ASSISTANT EXECUTIVE ENGINEER

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

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Test Report
Steel

roject Name	Package No.06 Consists of 14 Works
lient	Excecutive Engineer - Byatarayanapura Division
ob No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
ix Type	T.M.T Steel of Fe550 Grade
ontractor	M/s SMLP Asphalts,Prop.Sri B B Umesha,
est Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
ocation	Site
laterial	T.M.T Steel of Fe550 Grade
ested Date	28-Dec-2022

Sl. No.	Dia in mm	Weight in Kg/mtr	Average Weight Kg/mtr	Ultimate Load in KN	Ultimate Tensile stress in N/mm²	Average Ultimate Tensile Stress N/mm²	Elongation in (%)	Bending and Rebending
1	8	0.395	0.395	29.27	582.00	584.00	18	OK
	8	0.395		29.47	586.00			
2	10	0.617	1.395	46.12	587.00	585.50	18	OK
	10	0.617		45.89	584.00			
3	12	0.889	2.395	66.19	585.00	583.50	18	OK
	12	0.889		65.85	582.00			

NOTE:

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Project Management Services

Summary of Frequencies of Field Tests and Lab Tests Conducted

Name of the work: Package No.06 Consists of 14 Works

Job No: MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR

Contractor M/s SMLP Asphalts, Prop. Sri B B Umesha,

Sl. No	Particulars of the Tests	100mm Thick Precost Slab Core Cut			
		Quantity Sqm	Frequency of Tests	Tests Required	Tests Carried Out
	Core Cutting				
1	Compressive strength test	239.40	One Test Per Source of supply	1	1

Note: Frequency of tests as per Specifications MORT&H, V Revision, Section 900.

consultant

contractor

ASSISTANT ENGINEER

ASSISTANT EXE

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

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Test Report
Concrete Compressive strength

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
Mix Type	100mm Thick Precost Slab Core Cut
Contractor	M/s SMLP Asphalts, Prop. Sri B B Umesha,
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Test Location	Laboratory
Sample No	1
Tested Date	14-Dec-2022

Sl. No.	Dia of Core D (mm)	Height of Core H (mm)	Core Wt (Kg)	Density of Core (Kg/m³)	H/D	Correction Factor (Based on H/D)	Failure Load (KN)	Core Strength (N/mm²)	Correction Factor for the dia. (Strength of the Core X 1.08)	Corrected Cylinder Compressive Strength (N/mm²)	Equivalent Cube Compressive Strength (N/mm²)
1	100.00	99.57	0.62	792.4987	0.9957	0.89	130.193	16.57	17.90	20.07	25.09
2	100.00	98.36	0.61	789.3083	0.9836	0.89	131.92	16.79	18.13	20.37	25.46
3	100.00	99.56	0.6	767.0112	0.9956	0.89	130.35	16.59	17.92	20.10	25.12

Results: Compressive strength of 100mm thick Precast Slab is 25.22 N/mm2

Note:
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Test Report
Concrete Compressive strength

ject Name	Package No.06 Consists of 14 Works
ent	Excecutive Engineer - Byatarayanapura Division
No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
Type	230mm Thick Precost Slab Core Cut
ntractor	M/s SMLP Asphalts, Prop. Sri B B Umesha,
st Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
st Location	Laboratory
mple No	1
sted Date	14-Dec-2022

	Dia of Core D (mm)	Height of Core H (mm)	Core Wt (Kg)	Density of Core (Kg/m³)	H/D	Correction Factor (Based on H/D)	Failure Load (KN)	Core Strength (N/mm²)	Correction Factor for the dia. (Strength of the Core X 1.08)	Corrected Cylinder Compressive Strength (N/mm²)	Equivalent Cube Compressive Strength (N/mm²)
	100.00	98.65	0.62	799.889	0.9865	0.89	131.921	16.79	18.13	20.36	25.45
2	100.00	99.46	0.61	780.579	0.9946	0.89	129.96	16.54	17.86	20.04	25.05
3	100.00	98.55	0.6	774.872	0.9855	0.89	133.18	16.95	18.31	20.56	25.70

esults: Compressive strength of 230mm thick Precast Slab is 25.40 N/mm2

te:
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Test Report
Rate of Spread of Prime Coat

roject Name	Package No.06 Consists of 14 Works
lient	Excecutive Engineer - Byatarayanapura Division
ob No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
ix Type	Wet Mix Macadam WMM
ontractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
ocation	At Site
laterial	Emulsion (Prime Coat)
ample No	1
ested Date	2-Mar-2023

Sl. No.	Determination	Unit	Test No 1		
			Longitudinal Distribution		
1	Size of Plate (mxn)	m^2	0.2x0.2	0.2x0.2	0.2x0.2
2	Area of the Plate (a)	m^2	0.04	0.04	0.04
3	Initial weight of the empty Plate (b)	kg	1.634	1.634	1.634
4	Final weight of plate after application of Tack Coat (c)	kg	1.671	1.672	1.673
5	Weight of Prime coat/ Tack Coat (d = c-b)	kg	0.037	0.038	0.039
6	Rate of spread (d/a)	kg / m^2	0.925	0.950	0.975
7	Average	kg / m^2	0.950		
8	Specified Limit	kg / m^2	Not less than 0.90 kg / m^2		

Results: Rate of Spread of Prime Coat is: 0.950 kg / m2

Note:

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ii. The results relate only to the items tested.
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Test Report
Rate of Spread of Prime Coat

roject Name	Package No.06 Consists of 14 Works
lient	Excecutive Engineer - Byatarayanapura Division
ob No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
ix Type	Wet Mix Macadam WMM
ontractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
ocation	At Site
aterial	Emulsion (Prime Coat)
ample No	2
ested Date	2-Mar-2023

Sl. No.	Determination	Unit	Test No 1		
			Longitudinal Distribution		
1	Size of Plate (mxn)	m^2	0.2x0.2	0.2x0.2	0.2x0.2
2	Area of the Plate (a)	m^2	0.04	0.04	0.04
3	Initial weight of the empty Plate (b)	kg	1.634	1.634	1.634
4	Final weight of plate after application of Tack Coat (c)	kg	1.672	1.672	1.673
5	Weight of Prime coat/ Tack Coat (d = c-b)	kg	0.038	0.038	0.039
6	Rate of spread (d/a)	kg / m^2	0.95	0.95	0.975
7	Average	kg / m^2	0.958		
8	Specified Limit	kg / m^2	Not less than 0.90 kg / m2		

Results: Rate of Spread of Prime Coat is: 0.958 kg / m2

Note:

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Test Report
Rate of Spread of Prime Coat

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
Mix Type	Wet Mix Macadam WMM
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Location	At Site
Material	Emulsion (Primer Coat)
Sample No	3
Tested Date	2-Mar-2023

Sl. No.	Determination	Unit	Test No 1 Longitudinal Distribution		
1	Size of Plate (mxn)	m^2	0.2x0.2	0.2x0.2	0.2x0.2
2	Area of the Plate (a)	m^2	0.04	0.04	0.04
3	Initial weight of the empty Plate (b)	kg	1.634	1.634	1.634
4	Final weight of plate after application of Tack Coat (c)	kg	1.671	1.672	1.673
5	Weight of Prime coat/ Tack Coat (d = c-b)	kg	0.037	0.038	0.039
6	Rate of spread (d/a)	kg / m^2	0.925	0.95	0.975
7	Average	kg / m^2	0.967		
8	Specified Limit	kg / m^2	Not less than 0.90 kg / m2		

Results: Rate of Spread of Prime Coat is: 0.967 kg / m2

Note:

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Test Report
Aggregate Impact Value

oject Name	Package No.06 Consists of 14 Works
ient	Excecutive Engineer - Byatarayanapura Division
b No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
ix Type	Wet Mix Macadam WMM
ntractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
aterial	Coarse Aggregate
st Method	IS : 2386 (Part - 4) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
cation	Laboratory
mple No	1
mple llection Date	25-Feb-2023
ested Date	26-Feb-2023

Sl. No.	Determination	Unit	Trails	
1	Weight of empty cylinder, w1	gm	960	960
2	Weight of container filled with Aggregate, w2	gm	1324	1334
3	Weight of the Aggregate before compaction, (w2 - w1) = w3	gm	364	374
4	Weight of the sample passing through 2.36 mm IS sieves after Impact, w4	gm	91	94
5	Weight of the sample retained on 2.36 mm IS sieve after Impact, w5	gm	273	280
6	Aggregate Impact Value (w4 / w3)x100	%	25.00	25.13
7	Specified Limit	%	30	

Results: Average Aggregate Impact Value: **25.07** %

e:
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Test Report
Aggregate Particle Shape

roject Name	Package No.06 Consists of 14 Works
lient	Excecutive Engineer - Byatarayanapura Division
ob No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
lix Type	Wet Mix Macadam WMM
ontractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
est Method	IS : 2386 (Part - 1) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
ocation	Laboratory
laterial	Coarse Aggregates
ample No	1
ample Collection ate	25-Feb-2023
ested Date	26-Feb-2023

I.S. Sieves Size		Weight of Retained Sample on Each Sieve (minimum 200 Pieces) (gm)	Flakiness Index		Elongation Index	
Passing through IS Sieves (mm)	Retained on IS Sieves (mm)		Thickness Gauge	Weight of Aggregates in each fraction passing on thickness gauges (gm)	Length Gauge	Weight of Aggregates in Fraction retained on length gauges (gm)
63.0	50.0	0.0	33.90	0.0	-	0.0
50.0	40.0	0.0	27.00	0.0	81.00	0.0
40.0	25.0	39.45	19.50	0.0	58.50	0.0
31.5	25.0	54.11	16.95	0.0	-	0.0
25.0	20.0	1445.26	13.50	125.26	40.50	143.26
20.0	16.0	1408.96	10.80	87.96	32.40	114.96
16.0	12.5	956.74	8.55	151.74	25.60	158.74
12.5	10.0	568.32	6.75	170.32	20.20	176.32
10.0	6.3	269.32	4.89	91.32	14.70	98.32
	SW	4742.16	SWf	626.6	SWe	691.6

Flakiness Index	13.21	%
Elongation Index	14.58	%

Combined Flakiness and Elongation Indices : 27.80 %

Comments: Maximum allowable Combined Flakiness and Elongation Indices for WMM is 35%

Note:

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Test Report
Aggregate Gradation

ect Name	Package No.06 Consists of 14 Works
nt	Excecutive Engineer - Byatarayanapura Division
No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
Type	Wet Mix Macadam WMM
tractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Method	IS : 2386 (Part - 1) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
tion	Laboratory
erial	Coarse Aggregates
ple No	1
ple Collection	25-Feb-2023
ed Date	26-Feb-2023

Weight of Sample: 11096.78 gms

No.	I.S. Sieve size (mm)	Weight Retained (gm)	Percentage of weight Retained (%)	Cumulative Percentage of weight retained (%)	Cumulative % of Passing		Remarks
					Test Result	Gradation Limits as per MORT&H	
	53	0.00	0.00	0.00	100	100	Gradation satisfies the MORT&H Specification for Wet Mix macadam
	45	235.29	2.12	2.12	97.88	95-100	
	22.4	2916.45	26.28	28.4	71.6	60-80	
	11.2	2076.58	18.71	47.11	52.89	40-60	
	4.75	2198.36	19.81	66.92	33.08	25-40	
	2.36	1472.3	13.27	80.19	19.81	15-30	
	0.6	518.64	4.67	84.86	15.14	8-22	
	0.075	1412.65	12.73	97.59	2.41	0-5	

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B.B.M.P, Bangalore - 97

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Test Report
Liquid and Plastic Limit by Cone Apparatus

oject Name	Package No.06 Consists of 14 Works
ient	Excecutive Engineer - Byatarayanapura Division
b No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
ix Type	Wet Mix Macadam WMM
ntractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
st Method	Specification for Road & Bridge Works, MORT&H, Rev. V.
cation	Laboratory
mple No	1
mple Collection Date	25-Feb-2023
sted Date	27-Feb-2023

Sl No	Description	Unit	Liquid Limit	Plastic Limit
	Penetration	mm	**Non Plastic**	**Non Plastic**
1	Container No	no		
2	Weight of container,(A)	gm		
3	Weight of container + wet soil, (B)	gm		
4	Weight of container + dry soil, (C)	gm		
5	Weight of water, D=(B - C)	gm		
6	Weight of dry soil, E=(C - A)	gm		
7	Water Content, D/E x 100 (%)	gm		

omments: <6 so Non Plastic

ote:

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Test Report
Field Density Test by Sand Replacement Method

oject Name	Package No.06 Consists of 14 Works
ent	Excecutive Engineer - Byatarayanapura Division
o No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
x Type	Wet Mix Macadam WMM
ntractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
st Method	IS: 2720 (Part - 16) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
cation	Site
mple No	1
sted Date	1-Mar-2023

Test Hole No	1
MDD	2.25
OMC in %	5.5
Bulk Density Ys	1.392
Weight of Sand In cone W1 (gm)	1195
Weight Of Wet soil From Hole (W2)	4921
Wt Of Sand +Cylinder Before Pouring (W3)gm	17000
Wt Of Sand +Cylinder After Pouring (W4) gm	12858
Wt Of Sand In Hole: W5 = W3 - W4- W1 (gm)	2947
Volume of Hole: V= W5/ Ys	2117.10
Bulk Density Yb= W2/V (gm/cc)	2.32
Moisture Meter Reading (%)	5.5
Moisture Content : w (From Graph In %)	-
Dry Density Yd = Yb/(1+W/100)	2.20
Field Compaction(%)	97.92

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Project Management Services

Summary of Frequencies of Field Tests and Lab Tests Conducted

Name of the work: **Package No.06 Consists of 14 Works**

Job No: **MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR**

Contractor **M/s.SMLP Asphalts,Prop. Sri B B Umesha,**

Sl. No	Particulars of the Tests	Dense Graded Bituminious Macadam(DBM)			
		Quantity Cum	Frequency of Tests	Tests Required	Tests Carried Out
1	Quality of Binder	53.76	2 Test / lot	2	2
2	Aggregate Impact Value		1 Test / 350 m^3	1	1
3	Combined Flakiness & Elongation Indices		1 Test / 350 m^3	1	1
4	Aggregate Stripping Value		1Test / Source of Supply	1	1
5	Specific Gravity & Water Absorption of Aggregates		1Test / Source of Supply	1	1
6	Aggregate gradation		2 Test / day	1	1
7	Marshal Stability of the Mix		1 Test/400 tonnes (Min.2 Test)	2	2
8	Binder content and Mix Gradation		1 Test/400 tonnes (Min.2 Test)	2	2

Note: Frequency of tests as per Specifications MORT&H, V Revision, Section 900.

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Contractor

ASSISTANT ENGINEER

Assistant Executive Engineer
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Test Report
Quality of Bitumen

oject Name	Package No.06 Consists of 14 Works
ient	Excecutive Engineer - Byatarayanapura Division
b No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
ix Type	Dense Graded Bituminious Macadam(DBM)
ontractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
st Method	IS : 73 – 2013 (Paving Bitumen) & Specification for Road & Bridge Works, MORT&H, Revision V.
rade of Bitumen	VG30
cation	Hot Mix Plant
aterial	Bitumen
mple No	1
mple Collection te	25-Feb-2023
sted Date	26-Feb-2023

Sl. No.	Description	Test Results	Requirement as per IS:73 - 2013
1	Penetration at 25^{0}C , 1 / 10 mm	44	Min. 45
2	Softening Point, (^{0}C)	51	Min. 47
3	Specific Gravity	1.1	Min. 0.97
4	Ductility at 27^{0}C, in cm	44	Min. 40
5	Flash Point, (^{0}C)	226	Min. 220

te:

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Test Report
Quality of Bitumen

roject Name	Package No.06 Consists of 14 Works
lient	Excecutive Engineer - Byatarayanapura Division
b No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
ix Type	Dense Graded Bituminious Macadam(DBM)
ontractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
st Method	IS : 73 – 2013 (Paving Bitumen) & Specification for Road & Bridge Works, MORT&H, Revision V.
rade of Bitumen	VG30
ocation	Hot Mix Plant
laterial	Bitumen
mple No	2
mple Collection ate	25-Feb-2023
ested Date	26-Feb-2023

Sl. No.	Description	Test Results	Requirement as per IS:73 - 2013
1	Penetration at 25^{0}C , 1 / 10 mm	47	Min. 45
2	Softening Point, (^{0}C)	50	Min. 47
3	Specific Gravity	1.1	Min. 0.97
4	Ductility at 27^{0}C, in cm	45	Min. 40
5	Flash Point, (^{0}C)	225	Min. 220

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Test Report
Aggregate Impact Value

Project Name	Package No.06 Consists of 14 Works
lient	Excecutive Engineer - Byatarayanapura Division
ob No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
ix Type	Dense Graded Bituminious Macadam(DBM)
ontractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
est Method	IS : 2386 (Part - 4) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
ocation	Laboratory
aterial	Coarse Aggregate
ample No	1
Sample Collection Date	25-Feb-2023
Tested Date	28-Feb-2023

Sl. No.	Determination	Unit	Trails	
1	Weight of empty cylinder, w1	gm	960	960
2	Weight of container filled with Aggregate, w2	gm	1332	1323
3	Weight of the Aggregate before compaction, (w2 - w1) = w3	gm	372	363
4	Weight of the sample passing through 2.36 mm IS sieves after Impact, w4	gm	90	90
5	Weight of the sample retained on 2.36 mm IS sieve after Impact, w5	gm	282	273
6	Aggregate Impact Value (w4 / w3)x100	%	24.19	24.79
7	Specified Limit	%	27	

Results: Average Aggregate Impact Value: **24.49** %

Note:
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Test Report
Aggregate Particle Shape

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
Mix Type	Dense Graded Bituminious Macadam(DBM)
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	IS : 2386 (Part - 1) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Coarse Aggregates
Sample No	1
Sample Collection Date	25-Feb-2023
Tested Date	28-Feb-2023

I.S. Sieves Size		Weight of Retained Sample on Each Sieve (minimum 200 Pieces) (gm)	Flakiness Index		Elongation Index	
Passing through IS Sieves (mm)	Retained on IS Sieves (mm)		Thickness Gauge	Weight of Aggregates in each fraction passing on thickness gauges (gm)	Length Gauge	Weight of Aggregates in Fraction retained on length gauges (gm)
63	50	0	33.9	0	-	0
50	40	0	27	0	81	0
40	25	0	19.5	0	58.5	0
31.5	25	0	16.95	0	-	0
25	20	1436.59	13.5	116.59	40.5	134.59
20	16	1596.46	10.8	275.46	32.4	302.46
16	12.5	846.32	8.55	41.32	25.6	48.32
12.5	10	465.15	6.75	67.15	20.2	73.15
10	6.3	256.49	4.89	78.49	14.7	85.49
	SW	4601.01	SWf	579.01	SWe	644.01

Flakiness Index	12.92	%
Elongation Index	14.37	%

Combined Flakiness and Elongation Indices : 27.28 %

Comments: Maximum allowable Combined Flakiness and Elongation Indices for DBM is 35%.

Note:
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Test Report
Aggregate Stripping Value

oject Name	Package No.06 Consists of 14 Works
ient	Excecutive Engineer - Byatarayanapura Division
b No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
ix Type	Dense Graded Bituminious Macadam(DBM)
ntractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
st Method	IS : 6241 - 1971 & Specification for Road & Bridge Works, MORT&H, Revision V.
cation	Laboratory
aterial	Coarse Aggregates / Bitumen
mple No	1
sted Date	1-Mar-2023
pe of Aggregate	Coarse Aggregate
pe of Binder	60 / 70 Grade
rcentage of Binder Used	5% by weight
tal weight of Aggregate	200 gms
tal weight of Binder	10 gms
mperature of water bath	40^0C

Observation Number	Stripping Percentage	Average Percentage	Average Retained Coating (%)
1	3.6	3.5	96.5
2	3.1		
3	3.8		

omments: Minimum allowable Aggregate Stripping Value for Dense Bituminous Macadam is 95%

ote:
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Test Report
Aggregate Gradation

roject Name	Package No.06 Consists of 14 Works
lient	Excecutive Engineer - Byatarayanapura Division
ob No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
lix Type	Dense Graded Bituminious Macadam(DBM)
ontractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
est Method	IS : 2386 (Part - 1) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
ocation	Laboratory
laterial	Coarse Aggregates
ample No	1
ample Collection ate	25-Feb-2023
ested Date	28-Feb-2023

eight of Sample: 10930 gms

l. No.	I.S. Sieve size (mm)	Weight Retained (gm)	Percentage of weight Retained (%)	Cumulative Percentage of weight retained (%)	Cumulative % of Passing		Remarks
					Test Result	Gradation Limits as per MORT&H	
1	37.5	0	0.00	0.00	100.00	100	Gradation satisfies the MORT&H Specification for Dense graded Bituminous Macadam
2	26.5	486.64	4.45	4.45	95.55	90-100	
3	19	1457.23	13.33	17.78	82.22	71-95	
4	13.2	1586.34	14.51	32.30	67.70	56-80	
5	4.75	2236.29	20.46	52.76	47.24	38-54	
6	2.36	1472.61	13.47	66.23	33.77	28-42	
7	0.3	2173.88	19.89	86.12	13.88	7-21	
8	0.075	1042.79	9.54	95.66	4.34	2-8	

te:
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Test Report
Stability of Mix

ject Name	Package No.06 Consists of 14 Works
nt	Excecutive Engineer - Byatarayanapura Division
No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
Type	Dense Graded Bituminious Macadam(DBM)
tractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Method	Specification for Road & Bridge Works, MORT&H, Revision V.
tion	Laboratory
ple No	1
ed Date	3-Mar-2023

No.	Description	Unit	Test 1	Requirements as per MORT&H
1	Marshal Stability	KN	9.5	9 KN (min)
2	Marshal Flow	mm	4.6	2 – 5 mm
3	Percent of Air Voids in mix	%	3.4	3 - 6
4	Percent of Voids in Mineral Aggregates filled with Bitumen	%	68	65 – 75 %
5	Density	g/cc	2.3	-

e results indicated above are based on the tests carried out on the sample at site.
he results relate only to the items tested.
his test report should not be reproduced except in full, without written approval of this laboratory.
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Test Report
Stability of Mix

oject Name	Package No.06 Consists of 14 Works
ent	Excecutive Engineer - Byatarayanapura Division
No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
x Type	Dense Graded Bituminious Macadam(DBM)
ntractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
t Method	Specification for Road & Bridge Works, MORT&H, Revision V.
cation	Laboratory
mple No	2
sted Date	3-Mar-2023

l. No.	Description	Unit	Test 2	Requirements as per MORT&H
1	Marshal Stability	KN	9.8	9 KN (min)
2	Marshal Flow	mm	4.2	2 – 5 mm
3	Percent of Air Voids in mix	%	4.2	3 - 6
4	Percent of Voids in Mineral Aggregates filled with Bitumen	%	72	65 – 75 %
5	Density	g/cc	2.3	-

e:
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Test Report
Binder Content and Mix Gradation

ct Name	Package No.06 Consists of 14 Works
t	Excecutive Engineer - Byatarayanapura Division
o	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
Type	Dense Graded Bituminious Macadam(DBM)
ractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Method	Specification for Road & Bridge Works, MORT&H, Revision V.
ion	Laboratory
le No	1
d Date	4-Mar-2023

Description	Unit	Computation	Test Result
Weight of Empty bowl before Extraction (E)	gm	Eb	1080
Weight of bowl + Sample before extraction (w_s)	gm	w_{sb}	1778
Weight of Sample taken for the test (S_b)	gm	$S_b = w_{sb} - Eb$	698
Weight of bowl + Sample after extraction (w_s)	gm	w_{sa}	1746
Weight of Sample after extraction (i.e. washed aggregates)	gm	$S_a = w_{sa} - Eb$	666
Weight of Filter paper before extraction (F_b)	gm	F_b	2
Weight of Filter paper after extraction (F_a)	gm	F_a	3
Weight of filler on filter paper (F_d)	gm	$F_d = F_b - F_a$	1
Weight of Bitumen without considering Filter paper (W_b)	gm	W_b	32
Weight of the Bitumen with considering Filter paper (W_a)	gm	$W_a = w_{b+} F_d$	33
Percentage of the Bitumen (i.e. Binder Content) ($\%_B$)	(%)	W_a/ SbX100	4.73

I.S. Sieve size (mm)	Weight Retained (gm)	Percentage of weight Retained (%)	Cumulative Percentage of weight retained (%)	Cumulative % of Passing		Remarks
				Test Result	Gradation Limits as per MORT&H	
37.5	0	0.00	0.00	100.00	100	Gradation satisfies the MORT&H Specification for Dense graded biyuminous macadam
26.5	28.47	4.27	4.27	95.73	90-100	
19	73.46	11.03	15.30	84.70	71-95	
13.2	105.46	15.83	31.14	68.86	56-80	
4.75	148.65	22.32	53.46	46.54	38-54	
2.36	66.52	9.99	63.45	36.55	28-42	
0.3	130.26	19.56	83.01	16.99	7-21	
0.075	68.43	10.27	93.28	6.72	2-8	

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B.B.M.P, Bangalore - 97

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Test Report
Binder Content and Mix Gradation

ject Name	Package No.06 Consists of 14 Works
nt	Excecutive Engineer - Byatarayanapura Division
No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
Type	Dense Graded Bituminious Macadam(DBM)
tractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Method	Specification for Road & Bridge Works, MORT&H, Revision V.
ation	Laboratory
ple No	2
ted Date	4-Mar-2023

Description	Unit	Computation	Test Result
Weight of Empty bowl before Extraction (E)	gm	Eb	1080
Weight of bowl + Sample before extraction (w_s)	gm	w_{sb}	1725
Weight of Sample taken for the test (S_b)	gm	$S_b = w_{sb} - Eb$	645
Weight of bowl + Sample after extraction (w_s)	gm	w_{sa}	1697
Weight of Sample after extraction (i.e. washed aggregates)	gm	$S_a = w_{sa} - Eb$	617
Weight of Filter paper before extraction (F_b)	gm	F_b	2
Weight of Filter paper after extraction (F_a)	gm	F_a	4
Weight of filler on filter paper (F_d)	gm	$F_d = F_b - F_a$	2
Weight of Bitumen without considering Filter paper (W_b)	gm	W_b	28
Weight of the Bitumen with considering Filter paper (W_a)	gm	$W_a = w_b + F_d$	30
Percentage of the Bitumen (i.e. Binder Content) ($\%_B$)	(%)	W_a/ SbX100	4.65

I.S. Sieve size (mm)	Weight Retained (gm)	Percentage of weight Retained (%)	Cumulative Percentage of weight retained (%)	Cumulative % of Passing		Remarks
				Test Result	Gradation Limits as per MORT&H	
37.5	0	0.00	0.00	100.00	100	Gradation satisfies the MORT&H Specification for Dense graded biyuminous macadam
26.5	33.58	5.44	5.44	94.56	90-100	
19	76.48	12.40	17.84	82.16	71-95	
13.2	108.48	17.58	35.42	64.58	56-80	
4.75	142.36	23.07	58.49	41.51	38-54	
2.36	68.43	11.09	69.58	30.42	28-42	
0.3	98.62	15.98	85.57	14.43	7-21	
0.075	59.45	9.64	95.20	4.80	2-8	

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Name of the work: **Package No.06 Consists of 14 Works**

Job No: **MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR**

Contractor **M/s.SMLP Asphalts,Prop. Sri B B Umesha,**

Sl. No	Particulars of the Tests	Bituminous Concrete (BC)			
		Quantity Cum	Frequency of Tests	Tests Required	Tests Carried Out
1	Quality of Binder	65.18	2 Test / lot	2	2
2	Rate of Spread of Tack Coat/ Prime Coat		3 Test / Day	3	3
3	Aggregate Impact Value		1 Test / 350 m^3	1	1
4	Combined Flakiness & Elongation Indices		1 Test / 350 m^3	1	1
5	Aggregate Stripping Value		1Test / Source of Supply	1	1
6	Specific Gravity & Water Absorption of Aggregates		1Test / Source of Supply	1	1
7	Aggregate gradation		2 Test	1	1
8	Marshal Stability of the Mix		1 Test/400 tonnes (Min. 2 Test)	2	2
9	Binder content and Mix Gradation		1 Test/400 tonnes (Min. 2 Test)	2	2

Note: Frequency of tests as per Specifications MORT&H, V Revision, Section 900.

Consultant

Contractor

ASSISTANT ENGINEER

ASSISTANT EXE ENGINEER

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

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Test Report
Quality of Bitumen

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
Mix Type	Bituminous Concrete (BC)
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	IS : 73 – 2013 (Paving Bitumen) & Specification for Road & Bridge Works, MORT&H, Revision V
Grade of Bitumen	VG30
Location	Hot Mix Plant
Material	Bitumen
Sample No	1
Sample Collection Date	26-Feb-2023
Tested Date	27-Feb-2023

Sl. No.	Description	Test Results	Requirement as per IS:73-2013
1	Penetration at 25^{0}C , 1 / 10 mm	48	Min. 45
2	Softening Point, (^{0}C)	49	Min. 47
3	Specific Gravity	0.97	Min. 0.97
4	Ductility at 27^{0}C, in cm	43	Min. 40
5	Flash Point, (^{0}C)	224	Min. 220

Note:

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The results relate only to the items tested.

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PROJECT MANAGEMENT CONSULTANCY SERVICES

Test Report
Quality of Bitumen

ct Name	Package No.06 Consists of 14 Works
t	Excecutive Engineer - Byatarayanapura Division
lo	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
Type	Bituminous Concrete (BC)
ractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Method	IS : 73 – 2013 (Paving Bitumen) & Specification for Road & Bridge Works, MORT&H, Revision V.
e of Bitumen	VG30
tion	Hot Mix Plant
rial	Bitumen
ple No	2
ple Collection	26-Feb-2023
d Date	27-Feb-2023

Sl. No.	Description	Test Results	Requirement as per IS:73-2013
1	Penetration at 25^{0}C , 1 / 10 mm	52	Min. 45
2	Softening Point, (^{0}C)	51	Min. 47
3	Specific Gravity	0.97	Min. 0.97
4	Ductility at 27^{0}C, in cm	45	Min. 40
5	Flash Point, (^{0}C)	226	Min. 220

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results relate only to the items tested.
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Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

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[illegible]

Test Report
Rate of Spread of Tack Coat

[illegible]	Package No.06 Consists of 14 Works
[illegible]	Executive Engineer Vidyaranyapura Division
[illegible]	MCTPL/BBMP/SS/BTP/PMC/P-3877/2022-23/QR
[illegible]	Bituminous Concrete (BC)
[illegible]	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
[illegible]	At Site
[illegible]	Bitumen (Tack Coat)
[illegible]	1
[illegible]	4-Mar-2023

Sl. No.	Determination	Unit	Test No 1 Longitudinal Distribution		
[illegible]	Size of Plate (mxn)	m^2	0.2x0.2	0.2x0.2	0.2x0.2
[illegible]	Area of the Plate (a)	m^2	0.04	0.04	0.04
[illegible]	Initial weight of the empty Plate (b)	kg	1.643	1.643	1.643
[illegible]	Final weight of plate after application of Tack Coat (c)	kg	1.654	1.653	1.653
[illegible]	Weight of Prime coat / Tack Coat (d = c-b)	kg	0.011	0.01	0.01
[illegible]	Rate of spread (d/a)	kg / m^2	0.275	0.25	0.25
[illegible]	Average	kg / m^2	0.258		
[illegible]	Specified Limit	kg / m^2	Not less than 0.20 kg / m2		
	Results: Rate of Spread of Tack Coat is:		0.258 kg / m2		

[illegible]

[illegible] indicated above are based on the tests carried out on the sample at site.

[illegible] relate only to the items tested.

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B.B.M.P, Bangalore - 97

Test Report
Rate of Spread of Tack Coat

oject Name	Package No.06 Consists of 14 Works
ient	Excecutive Engineer - Byatarayanapura Division
b No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
x Type	Bituminous Concrete (BC)
ntractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
cation	At Site
terial	Bitumen (Tack Coat)
mple No	2
sted Date	4-Mar-2023

Sl. No.	Determination	Unit	Test No 2 Longitudinal Distribution		
1	Size of Plate (mxn)	m^2	0.2x0.2	0.2x0.2	0.2x0.2
2	Area of the Plate (a)	m^2	0.04	0.04	0.04
3	Initial weight of the empty Plate (b)	kg	1.643	1.643	1.643
4	Final weight of plate after application of Tack Coat (c)	kg	1.652	1.655	1.657
5	Weight of Prime coat/ Tack Coat (d = c-b)	kg	0.009	0.012	0.014
6	Rate of spread (d/a)	kg / m^2	0.225	0.3	0.35
7	Average	kg / m^2	0.292		
8	Specified Limit	kg / m^2	Not less than 0.20 kg / m2		

Results: Rate of Spread of Tack Coat is: 0.292 kg / m2

ote:
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Test Report
Rate of Spread of Tack Coat

...oject Name	Package No.06 Consists of 14 Works
...ient	Excecutive Engineer - Byatarayanapura Division
...b No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
...x Type	Bituminous Concrete (BC)
...ntractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
...cation	At Site
...terial	Bitumen (Tack Coat)
...mple No	3
...sted Date	4-Mar-2023

Sl. No.	Determination	Unit	Test No 3 Longitudinal Distribution		
1	Size of Plate (mxn)	m^2	0.2x0.2	0.2x0.2	0.2x0.2
2	Area of the Plate (a)	m^2	0.04	0.04	0.04
3	Initial weight of the empty Plate (b)	kg	1.643	1.643	1.643
4	Final weight of plate after application of Tack Coat (c)	kg	1.652	1.654	1.655
5	Weight of Prime coat/ Tack Coat (d = c-b)	kg	0.009	0.011	0.012
6	Rate of spread (d/a)	kg / m^2	0.225	0.275	0.3
7	Average	kg / m^2	0.267		
8	Specified Limit	kg / m^2	Not less than 0.20 kg / m2		

Results: Rate of Spread of Tack Coat is: 0.267 kg / m2

...e:
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Test Report
Aggregate Impact Value

...oject Name	Package No.06 Consists of 14 Works
...ient	Excecutive Engineer - Byatarayanapura Division
...b No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
...x Type	Bituminous Concrete (BC)
...ntractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
...st Method	IS : 2386 (Part - 4) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
...cation	Laboratory
...aterial	Aggregate .
...mple No	1
...mple Collection ...ate	26-Feb-2023
...sed Date	1-Mar-2023

Sl. No.	Determination	Unit	Trails	
1	Weight of empty cylinder, w1	gm	960	960
2	Weight of container filled with Aggregate, w2	gm	1356	1347
3	Weight of the Aggregate before compaction, (w2 - w1) = w3	gm	396	387
4	Weight of the sample passing through 2.36 mm IS sieves after Impact, w4	gm	85	86
5	Weight of the sample retained on 2.36 mm IS sieve after Impact, w5	gm	311	301
6	Aggregate Impact Value (w4 / w3)x100	%	21.46	22.22
7	Specified Limit	%	24	

Results: Average Aggregate Impact Value: **21.84** %

...te:
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Test Report
Aggregate Particle Shape

ject Name	Package No.06 Consists of 14 Works
ent	Excecutive Engineer - Byatarayanapura Division
No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
x Type	Bituminous Concrete (BC)
ntractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
t Method	IS : 2386 (Part - 1) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
ation	Laboratory
terial	Aggregates
mple No	1
mple Collection	26-Feb-2023
ite	
ested Date	1-Mar-2023

I.S. Sieves Size		Weight of Retained Sample on Each Sieve (minimum 200 Pieces) (gm)	Flakiness Index		Elongation Index	
Passing through IS Sieves (mm)	Retained on IS Sieves (mm)		Thickness Gauge	Weight of Aggregates in each fraction passing on thickness gauges (gm)	Length Gauge	Weight of Aggregates in Fraction retained on length gauges (gm)
63	50	0.00	33.9	0.00	-	0.00
50	40	0.00	27	0.00	81	0.00
40	25	0.00	19.5	0.00	58.5	0.00
31.5	25	0.00	16.95	0.00	-	0.00
25	20	1615.46	13.5	295.46	40.5	313.46
20	16	1334.85	10.8	13.85	32.4	40.85
16	12.5	889.4	8.55	84.4	25.6	91.4
12.5	10	514.47	6.75	116.47	20.2	122.47
10	6.3	217.49	4.89	39.49	14.7	46.49
	SW	4571.67	SWf	549.67	SWe	614.67

lakiness Index	12.02	%
longation Index	13.45	%

ombined Flakiness and Elongation Indices : 25.47 %

mments: Maximum allowable Combined Flakiness and Elongation Indices for Bituminous Concrete is 35%.

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Test Report
Aggregate Stripping Value

ject Name	Package No.06 Consists of 14 Works
t	Excecutive Engineer - Byatarayanapura Division
No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
Type	Bituminous Concrete (BC)
ractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Method	IS : 6241 - 1971 & Specification for Road & Bridge Works, MORT&H, Revision V.
ition	Laboratory
rial	Aggregates / Bitumen
ple No	1 ,
ived Date	27-Feb-2023
e of Aggregate	Coarse Aggregate
e of Binder	60 / 70 Grade
entage of Binder Used	5% by weight
l weight of Aggregate	200 gms
l weight of Binder	10 gms
perature of water bath	40^{0}C

Observation Number	Stripping Percentage	Average Percentage	Average Retained Coating (%)
1	3.4	3.23	96.77
2	3.1		
3	3.2		

mments: Minimum allowable Aggregate Stripping Value for Bituminous Concrete is 95%

te:
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Test Report

Specific Gravity and Water Absorption

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
Mix Type	Bituminous Concrete (BC)
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	IS: 2386 (Part - 111) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Aggregates
Sample No	1
Sapmle Collection Date	26-Feb-2023
Tested Date	27-Feb-2023

S.No.	Particulars	Computations	Test Numbers		Mean
			Test 1	Test 2	
1	Weight of Empty Basket Immersed in Water	W_1 g	761	763	
2	Wt of Basket Filled with Aggregates Immersed in water	W_2g	2089	2048	
3	Weight of Saturated Aggregate in water	$W_s g = W_2 - W_1$	1328	1285	
4	Weight of saturated surface dry aggregate in Air	W_3 g	2124	2073	
5	Weight of water equal to the Volume of the Aggregate	$W_3 - W_s$	796	788	
6	Weight of Oven dried Aggregate	W_4g	2086	2042	
7	Specific Gravity	$W_4/(W_3 - W_s)$	2.62	2.59	2.61
8	Apparent Specific Gravity	$W_4/(W_4 - W_s)$	2.75	2.70	2.72
9	Water Absorption	$(W_4 - W_3)*100/W_4$	1.82	1.52	1.67

mments: Maximum allowable Aggregate Water Absorption value for Bituminous Concrete is 2.0%.

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Test Report
Aggregate Gradation

ject Name	Package No.06 Consists of 14 Works
ent	Excecutive Engineer - Byatarayanapura Division
No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
Type	Bituminous Concrete (BC)
ractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Method	IS : 2386 (Part - 1) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
ation	At Plant
erial	Aggregates
ple No	1
ple Collection Date	26-Feb-2023
ted Date	1-Mar-2023

ght of Sample: 4000 gms

. No.	**I.S. Sieve size (mm)**	**Weight Retained (gm)**	**Percentage of weight Retained (%)**	**Cumulative Percentage of weight retained (%)**	**Cumulative % of Passing**		**Remarks**
					Test Result	**Gradation Limits as per MORT&H**	
1	19.00	0.00	0.00	0.00	100.00	100	
2	13.20	251.24	6.28	6.28	93.72	90-100	
3	9.50	622.54	15.56	21.84	78.16	70-88	Gradation satisfies the MORT&H Grade ll Specification for Bituminous Concrete
4	4.75	723.45	18.09	39.93	60.07	53-71	
5	2.36	530.14	13.25	53.18	46.82	42-58	
6	1.18	259.47	6.49	59.67	40.33	34-48	
7	0.60	334.25	8.36	68.03	31.97	26-38	
8	0.30	349.15	8.73	76.76	23.24	18-28	
9	0.15	356.24	8.91	85.66	14.34	12-20	
10	0.075	265.34	6.63	92.30	7.70	4-10	

te:
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Test Report
Stability of Mix

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
Mix Type	Bituminous Concrete (BC)
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	Specification for Road & Bridge Works, MORT&H, Revision V.
Location	Laboratory
Sample No	1
Tested Date	4-Mar-2023

Sl. No.	Description	Unit	Test 1	Requirements as per MORT&H
1	Marshal Stability	KN	9.4	9 KN (min)
2	Marshal Flow	mm	3.6	2 – 4 mm
3	Percent of Air Voids in mix	%	4.6	3 – 6 %
4	Percent of Voids in Mineral Aggregates filled with Bitumen	%	65	65 – 75 %
5	Density	g/cc	2.32	-

Note:
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Test Report
Stability of Mix

ject Name	Package No.06 Consists of 14 Works
ent	Excecutive Engineer - Byatarayanapura Division
e No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
Type	Bituminous Concrete (BC)
ractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Method	Specification for Road & Bridge Works, MORT&H, Revision V.
ation	Laboratory
ple No	2
ed Date	4-Mar-2023

S. No.	Description	Unit	Test 2	Requirements as per MORT&H
1	Marshal Stability	KN	9.5	9 KN (min)
2	Marshal Flow	mm	3.3	2 - 4 mm
3	Percent of Air Voids in mix	%	5.2	3 - 6 %
4	Percent of Voids in Mineral Aggregates filled with Bitumen	%	72	65 - 75 %
5	Density	g/cc	2.32	-

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Test Report
Binder Content and Mix Gradation

ject Name	Package No.06 Consists of 14 Works
ent	Excecutive Engineer - Byatarayanapura Division
t No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
t Type	Bituminous Concrete (BC)
ntractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
d Method	Specification for Road & Bridge Works, MORT&H, Revision V.
ation	Laboratory
mple No	1
ved Date	4-Mar-2023

	Description	Unit	Computation	Test Result
1	Weight of Empty bowl before Extraction (E)	gm	Eb	1080
2	Weight of bowl + Sample before extraction (w_s)	gm	w_{sb}	1814
3	Weight of Sample taken for the test (S_b)	gm	$S_b = w_{sb} - Eb$	734
4	Weight of bowl + Sample after extraction (w_s)	gm	w_{sa}	1779
5	Weight of Sample after extraction (i.e. washed aggregates)	gm	$S_a = w_{sa} - Eb$	699
6	Weight of Filter paper before extraction (F_b)	gm	F_b	2
7	Weight of Filter paper after extraction (F_a)	gm	F_a	4
8	Weight of filler on filter paper (F_d)	gm	$F_d = F_b - F_a$	2
9	Weight of Bitumen without considering Filter paper (W_b)	gm	W_b	38
10	Weight of the Bitumen with considering Filter paper (W_a)	gm	$W_a = w_b + F_d$	40
11	Percentage of the Bitumen (i.e. Binder Content) ($\%_B$)	(%)	W_a/ SbX100	5.45

.I.S. Sieve size (mm)	Weight Retained (gm)	Percentage of weight Retained (%)	Cumulative Percentage of weight retained (%)	Cumulative % of Passing		Remarks
				Test Result	Gradation Limits as per MORT&H	
19	0	0	0	100.00	100	
13.2	43.57	6.23	6.23	93.77	90-100	
9.5	98.65	14.11	20.35	79.65	70-88	
4.75	106.57	15.25	35.59	64.41	53-71	
2.36	89.47	12.80	48.39	51.61	42-58	
1.18	68.35	9.78	58.17	41.83	34-48	
0.6	82.24	11.77	69.94	30.06	26-38	
0.3	58.34	8.35	78.28	21.72	18-28	
0.15	30.95	4.43	82.71	17.29	12-20	
0.075	75.64	10.82	93.53	6.47	4-10	

Gradation satisfies the MORT&H Grade II Specification for Bituminous Concrete

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Test Report
Binder Content and Mix Gradation

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Test No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
Mix Type	Bituminous Concrete (BC)
Contractor	M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Test Method	Specification for Road & Bridge Works, MORT&H, Revision V.
Location	Laboratory
Sample No	2
Received Date	4-Mar-2023

	Description	Unit	Computation	Test Result
1	Weight of Empty bowl before Extraction (E)	gm	Eb	1080
2	Weight of bowl + Sample before extraction (w_s)	gm	w_{sb}	1822
3	Weight of Sample taken for the test (S_b)	gm	$S_b = w_{sb} - Eb$	742
4	Weight of bowl + Sample after extraction (w_a)	gm	w_{sa}	1793
5	Weight of Sample after extraction (i.e. washed aggregates)	gm	$S_a = w_{sa} - Eb$	713
6	Weight of Filter paper before extraction (F_b)	gm	F_b	2
7	Weight of Filter paper after extraction (F_a)	gm	F_a	4
8	Weight of filler on filter paper (F_d)	gm	$F_d = F_b - F_a$	2
9	Weight of Bitumen without considering Filter paper (W_b)	gm	W_b	39
10	Weight of the Bitumen with considering Filter paper (W_a)	gm	$W_a = w_b - F_d$	41
11	Percentage of the Bitumen (i.e. Binder Content) ($\%_b$)	(%)	$W_a / SbX100$	5.53

Sl. No.	I.S. Sieve size (mm)	Weight Retained (gm)	Percentage of weight Retained (%)	Cumulative Percentage of weight retained (%)	Cumulative % of Passing		Remarks
					Test Result	Gradation Limits as per MORT&H	
1	19	0	0.00	0.00	100.00	100	
2	13.2	42.15	5.91	5.91	94.09	90-100	Gradation satisfies the MORT&H Grade II Specification for Bituminous Concrete
3	9.5	108.47	15.21	21.12	78.88	70-88	
4	4.75	139.24	19.53	40.65	59.35	53-71	
5	2.36	95.64	13.41	54.07	45.93	42-58	
6	1.18	73.48	10.31	64.37	35.63	34-48	
7	0.6	52.34	7.34	71.71	28.29	26-38	
8	0.3	53.26	7.47	79.18	20.82	18-28	
9	0.15	52.16	7.32	86.50	13.50	12-20	
10	0.075	49.76	6.98	93.48	6.52	4-10	

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Summary of Frequencies of Field Tests and Lab Tests Conducted

Name of the work: Package No.06 Consists of 14 Works

Job No: MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR

Contractor M/s SMLP Asphalts, Prop.Sri B B Umesha

Sl. No	Particulars of the Tests	M30 Concrete			
		Quantity Cum	Frequency of Tests	Tests Required	Tests Carried Out
IV	**Concrete**				
1	Compressive strength test	140.96	1 to 5cum=1 sample 6 to 15 cum=2 sample 16 to 30cum=3 smaple 31 to 50cum= 4 sample 51cum and above= one additonal sample for every additional 50 cum or part therof	5	5
	7-days				
	28-days				

Note: Frequency of tests as per Specifications MORT&H, V Revision, Section 900.

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consultant

contractor

ASSISTANT ENGINEER

ASSISTANT EXE ENGINEER

Assistant Executive Engineer
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Test Report
Concrete Compresive strength

Name	Package No.06 Consists of 14 Works
	Excecutive Engineer - Byatarayanapura Division
	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
	M30 Concrete
	M/s SMLP Asphalts, Prop.Sri B B Umesha
Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
	Laboratory
	Concrete
No	1
Date	10-Dec-2022
Date	17-Dec-2022

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	30	7	8.45	150*150*150	2503.70	479.00	0.0225	21.29	21.24	21.37
2	30	7	7.95	150*150*150	2355.56	473.00	0.0225	21.02		
3	30	7	8.32	150*150*150	2465.19	482.00	0.0225	21.42		
4	30	7	8.16	150*150*150	2417.78	483.00	0.0225	21.47	21.50	
5	30	7	8.57	150*150*150	2539.26	480.00	0.0225	21.33		
6	30	7	8.33	150*150*150	2468.15	488.00	0.0225	21.69		

7-days Compressive strength of Concrete is 21.37 N/mm2

7-days Compressive strength of M30 Concrete should not be less than 21.00 N/mm2

results indicated above are based on the tests carried out on the sample at site.
results relate only to the items tested.
test report should not be reproduced except in full, without written approval of this laboratory.
query regarding the report must be reported immediately.

Mecadez Core Technology Pvt. Ltd,

12-12-22

Authorised Signature

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

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MECADEZ CORE TECHNOLOGIES PRIVATE LIMITED

Test Report
Concrete Compressive strength

Name	Package No.1(b) Construction of 2 x 4 Nos Box
	Executive Engineer - Padmanabhanagar Division
	MCC(T), BBMP/ EE/ EP/ PMC/ P-387/ 2022-23/ QR
	M30 Concrete
	M/s SELC Australia, Prop. for B B Chowdaiah
	IS: 4031, part 6 - 1988 & Specification for Road & Bridge Works, MORT&H, Rev. V
	Laboratory
	Concrete
	3
	14-Dec-2022
	17-Dec-2022

Slno	Concrete Grade	Age of Test (Days)	Weight (kg)	Dimensions (LxWxH)	Density (kg/m^3)	Max. Load (kN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
	M30	7	8.421	150*150*150	2554.87	477.000	0.02225	21.20	21.41	21.47
	M30	7	8.335	150*150*150	2414.82	485.000	0.02225	21.56		
	M30	7	8.421	150*150*150	2494.82	483.000	0.02225	21.47		
	M30	7	8.45	150*150*150	2516.70	487.000	0.02225	21.64	21.54	
	M30	7	8.408	150*150*150	2394.07	481.000	0.02225	21.38		
	M30	7	8.369	150*150*150	2367.41	486.000	0.02225	21.60		

Average Compressive strength of Concrete is 21.47 N/mm2

Minimum Compressive strength of M30 Concrete should not be less than 21.00 N/mm2

Note:

1. Sample identification marks are based on the marks carried out on the sample at site.
2. Test results are only to the items tested.
3. This report cannot be used in any objectionable manner i.e. full, without written approval of this laboratory.
4. Any discrepancy in the report must be reported immediately.

For Mecadez Core Technologies Pvt. Ltd.

Authorised Signatory

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

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MECADEZ CORE TECHNOLOGIES PRIVATE LIMITED
PROJECT MANAGEMENT CONSULTANCY SERVICES

Test Report
Concrete Compresive strength

ect Name	Package No.06 Consists of 14 Works
nt	Excecutive Engineer - Byatarayanapura Division
No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
Type	M30 Concrete
ractor	M/s SMLP Asphalts, Prop.Sri B B Umesha
Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
tion	Laboratory
erial	Concrete
ple No	3
ing Date	10-Dec-2022
ed Date	17-Dec-2022

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	30	7	8.26	150*150*150	2447.41	479.00	0.0225	21.29	21.50	21.56
2	30	7	8.46	150*150*150	2506.67	487.00	0.0225	21.64		
3	30	7	8.32	150*150*150	2465.19	485.00	0.0225	21.56		
4	30	7	8.67	150*150*150	2568.89	489.00	0.0225	21.73	21.63	
5	30	7	8.95	150*150*150	2651.85	483.00	0.0225	21.47		
6	30	7	8.08	150*150*150	2394.07	488.00	0.0225	21.69		

lts: 7-days Compressive strength of Concrete is 21.56 N/mm2

ents: 7-days Compressive strength of M30 Concrete should not be less than 21.00 N/mm2

esults indicated above are based on the tests carried out on the sample at site.
esults relate only to the items tested.
test report should not be reproduced except in full, without written approval of this laboratory.
query regarding the report must be reported immediately.

ecadez Core Technology Pvt. Ltd,

rised Signature

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

MECADEZ CORE TECHNOLOGIES PRIVATE LIMITED
PROJECT MANAGEMENT CONSULTANCY SERVICES

Test Report
Concrete Compresive strength

ject Name	Package No.06 Consists of 14 Works
ent	Excecutive Engineer - Byatarayanapura Division
t No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
e Type	M30 Concrete
ntractor	M/s SMLP Asphalts, Prop.Sri B B Umesha
st Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
cation	Laboratory
terial	Concrete
mple No	4
ting Date	10-Dec-2022
ted Date	17-Dec-2022

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	30	7	8.36	150*150*150	2477.04	481.00	0.0225	21.38	21.59	21.65
2	30	7	8.56	150*150*150	2536.30	489.00	0.0225	21.73		
3	30	7	8.42	150*150*150	2494.81	487.00	0.0225	21.64		
4	30	7	8.77	150*150*150	2598.52	491.00	0.0225	21.82	21.72	
5	30	7	8.32	150*150*150	2465.19	485.00	0.0225	21.56		
6	30	7	8.18	150*150*150	2423.70	490.00	0.0225	21.78		

ults: 7-days Compressive strength of Concrete is 21.65 N/mm2

mments: 7-days Compressive strength of M30 Concrete should not be less than 21.00 N/mm2

e results indicated above are based on the tests carried out on the sample at site.
he results relate only to the items tested.
his test report should not be reproduced except in full, without written approval of this laboratory.
ny query regarding the report must be reported immediately.

cadez Core Technology Pvt. Ltd,

horised Signature

Assistant Executive Engineer
Vidyaranyapura Sub Divisio
B.B.M.P, Bangalore - 97

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MECADEZ CORE TECHNOLOGIES PRIVATE LIMITED
PROJECT MANAGEMENT CONSULTANCY SERVICES

Test Report
Concrete Compresive strength

Name	Package No.06 Consists of 14 Works
	Excecutive Engineer - Byatarayanapura Division
	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
	M30 Concrete
	M/s SMLP Asphalts, Prop.Sri B B Umesha
Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
	Laboratory
	Concrete
No	5
Date	10-Dec-2022
Date	17-Dec-2022

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	30	7	8.45	150*150*150	2503.70	483.00	0.0225	21.47	21.67	21.74
2	30	7	8.65	150*150*150	2562.96	491.00	0.0225	21.82		
3	30	7	8.51	150*150*150	2521.48	489.00	0.0225	21.73		
4	30	7	8.86	150*150*150	2625.19	493.00	0.0225	21.91	21.81	
5	30	7	8.41	150*150*150	2491.85	487.00	0.0225	21.64		
6	30	7	8.27	150*150*150	2450.37	492.00	0.0225	21.87		

lts: 7-days Compressive strength of Concrete is 21.74 N/mm2

ments: 7-days Compressive strength of M30 Concrete should not be less than 21.00 N/mm2

:

e results indicated above are based on the tests carried out on the sample at site.

e results relate only to the items tested.

is test report should not be reproduced except in full, without written approval of this laboratory.

y query regarding the report must be reported immediately.

adez Core Technology Pvt. Ltd,

Authorised Signature

AE2-09

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

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MECADEZ CORE TECHNOLOGIES PRIVATE LIMITED
PROJECT MANAGEMENT CONSULTANT SERVICE

Test Report

Concrete Compressive strength

[illegible]

[illegible]	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
[illegible]	30	28	8.51	150*150*150	2521.48	689.00	0.0225	30.62	30.39	30.30
[illegible]	30	28	8.32	150*150*150	2465.19	683.00	0.0225	30.36		
[illegible]	30	28	8.41	150*150*150	2491.85	679.00	0.0225	30.18		
[illegible]	30	28	8.76	150*150*150	2595.56	680.00	0.0225	30.22	30.22	
[illegible]	30	28	8.22	150*150*150	2435.56	676.00	0.0225	30.04		
[illegible]	30	28	8.09	150*150*150	2397.04	684.00	0.0225	30.40		

[illegible] Compressive strength of Concrete is 30.30 N/mm2

[illegible] Compressive strength of M30 Concrete should not be less than 30 N/mm2

[illegible] above are based on the tests carried out on the sample at site.

[illegible] only to the items tested.

[illegible] should not be reproduced except in full, without written approval of this laboratory.

[illegible] the report must be reported immediately.

[illegible] Technology Pvt. Ltd.

[illegible]

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Concrete Compresive strength

Name	Package No.06 Consists of 14 Works
	Excecutive Engineer - Byatarayanapura Division
	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
	M30 Concrete
Type	M/s SMLP Asphalts, Prop.Sri B B Umesha
Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
	Laboratory
	Concrete
No	2
Date	10-Dec-2022
Date	7-Jan-2023

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	30	28	8.66	150*150*150	2565.93	692.00	0.0225	30.76	30.79	30.59
2	30	28	8.75	150*150*150	2592.59	697.00	0.0225	30.98		
3	30	28	8.19	150*150*150	2426.67	689.00	0.0225	30.62		
4	30	28	8.05	150*150*150	2385.19	678.00	0.0225	30.13	30.39	
5	30	28	8.11	150*150*150	2402.96	688.00	0.0225	30.58		
6	30	28	8.37	150*150*150	2480.00	685.00	0.0225	30.44		

Results: 28-days Compressive strength of Concrete is 30.59 N/mm2

Comments: 28-days Compressive strength of M30 Concrete should not be less than 30 N/mm2

Note:
The results indicated above are based on the tests carried out on the sample at site.
The results relate only to the items tested.
This test report should not be reproduced except in full, without written approval of this laboratory.
Any query regarding the report must be reported immediately.

For Mecadez Core Technology Pvt. Ltd,

Authorised Signature

12/12-09

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

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PROJECT MANAGEMENT CONSULTANCY SERVICES

Test Report
Concrete Compresive strength

Package No.06 Consists of 14 Works

Excecutive Engineer Byatarayanapura Division
MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
M30 Concrete
M/s SMLP Asphalts, Prop Sri B B Umesha
IS 4031 (part 6) 1988 & Specification for Road & Bridge Works, MORT&H, Rev. V
Laboratory
Concrete
3
10-Dec-2022
[illegible]-Jan-2023

Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
30	28	8.75	150*150*150	2592.59	694.00	0.0225	30.84	30.87	30.67
30	28	8.84	150*150*150	2619.26	699.00	0.0225	31.07		
30	28	8.28	150*150*150	2453.33	691.00	0.0225	30.71		
30	28	8.14	150*150*150	2411.85	680.00	0.0225	30.22	30.47	
30	28	8.20	150*150*150	2429.63	690.00	0.0225	30.67		
30	28	8.46	150*150*150	2506.67	687.00	0.0225	30.53		

[illegible] Compressive strength of Concrete is 30.67 N/mm2
[illegible] Compressive strength of M30 Concrete should not be less than 30 N/mm2

[illegible] are based on the tests carried out on the sample at site.
[illegible] to the items tested.
[illegible] should not be reproduced except in full, without written approval of this laboratory.
[illegible] the report must be reported immediately.

[illegible] Technology Pvt. Ltd.

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

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MECADEZ CORE TECHNOLOGIES PRIVATE LIMITED
PROJECT MANAGEMENT CONSULTANCY SERVICES

Test Report
Concrete Compresive strength

Name	Package No.06 Consists of 14 Works
	Excecutive Engineer - Byatarayanapura Division
	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
	M30 Concrete
	M/s SMLP Asphalts, Prop.Sri B B Umesha
	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V
	Laboratory
	Concrete
No	4
Date	10-Dec-2022
Date	7-Jan-2023

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	30	28	8.85	150*150*150	2622.22	696.00	0.0225	30.93	30.96	30.76
2	30	28	8.94	150*150*150	2648.89	701.00	0.0225	31.16		
3	30	28	8.38	150*150*150	2482.96	693.00	0.0225	30.80		
4	30	28	8.24	150*150*150	2441.48	682.00	0.0225	30.31	30.56	
5	30	28	8.30	150*150*150	2459.26	692.00	0.0225	30.76		
6	30	28	8.56	150*150*150	2536.30	689.00	0.0225	30.62		

28-days Compressive strength of Concrete is 30.76 N/mm2

Note: 28-days Compressive strength of M30 Concrete should not be less than 30 N/mm2

The results indicated above are based on the tests carried out on the sample at site.

The results relate only to the items tested.

The test report should not be reproduced except in full, without written approval of this laboratory.

Any discrepancy in the report must be reported immediately.

For Mecadez Core Technology Pvt. Ltd,

Authorised Signature

10/1/23

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

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PROJECT MANAGEMENT CONSULTANCY SERVICES

Test Report
Concrete Compresive strength

Name	Package No.06 Consists of 14 Works
	Excecutive Engineer - Byatarayanapura Division
	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
Type	M30 Concrete
...tor	M/s SMLP Asphalts, Prop.Sri B B Umesha
Method	IS - 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
...on	Laboratory
...al	Concrete
...le No	5
...g Date	10-Dec-2022
...d Date	7-Jan-2023

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	30	28	8.94	150*150*150	2648.89	698.00	0.0225	31.02	31.05	30.85
2	30	28	9.03	150*150*150	2675.56	703.00	0.0225	31.24		
3	30	28	8.47	150*150*150	2509.63	695.00	0.0225	30.89		
4	30	28	8.33	150*150*150	2468.15	684.00	0.0225	30.40	30.65	
5	30	28	8.39	150*150*150	2485.93	694.00	0.0225	30.84		
6	30	28	8.65	150*150*150	2562.96	691.00	0.0225	30.71		

...ults: 28-days Compressive strength of Concrete is 30.85 N/mm2
...ments: 28-days Compressive strength of M30 Concrete should not be less than 30 N/mm2

...
...results indicated above are based on the tests carried out on the sample at site.
...results relate only to the items tested.
...test report should not be reproduced except in full, without written approval of this laboratory.
...query regarding the report must be reported immediately.

...Core Technology Pvt. Ltd,

...Signature

AB-09

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

...14th 'B' Main, West of Chord Road, 2nd Stage, 2nd Phase, Mahalakshmipuram, Bengaluru - 560 086, Karnataka
...mail.com
+91 9538136111 +91 9483561234
www.mecadez.com

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Mecatez Core Technologies Private Limited

Project Management Consultancy Services

Summary of Frequencies of Field Tests and Lab Tests Conducted

Name of the work: Package No.06 Consists of 14 Works

Job No: MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR

Contractor M/s SMLP Asphalts, Prop.Sri B B Umesha

Sl. No	Particulars of the Tests	Granular Sub Base (GSB)			
		Quantity Cum	Frequency of Tests	Tests Required	Tests Carried Out
1	Gradation	344.10	1 Test /400 m^3	1	1
2	Atterberg limits		1 Test / 400 m^3	1	1
3	Density of compacted layer		1Set / 1000 m^2	1	1

Note: Frequency of tests as per Specifications MORT&H, V Revision, Section 900.

Mecatez Core Technologies Private Limited

Consultant

Contractor

ASSISTANT ENGINEER

ASSISTANT EXECUTIVE ENGINEER

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

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Test Report
Aggregate Gradation

ject Name	Package No.06 Consists of 14 Works
nt	Excecutive Engineer - Byatarayanapura Division
No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
Type	Granular Sub Base (GSB)
tractor	M/s SMLP Asphalts, Prop.Sri B B Umesha
Method	IS : 2386 (Part - 1) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
tion	At Laboratory
rial	Coarse Aggregates
ple No	1
ple Collected Date	1-Dec-2022
ed Date	2-Dec-2022

t of Sample: 10857.00 gms

o.	I.S. Sieve size (mm)	Weight Retained (gm)	Percentage of weight Retained (%)	Cumulative Percentage of weight retained (%)	Cumulative % of Passing		Remarks
					Test Result	Gradation Limits as per MORT&H	
	75	0	0.00	0.00	100.00	100	
	53	927.56	8.54	8.54	91.46	80-100	
	26.5	2249.87	20.72	29.26	70.74	55-90	Gradation satisfies the MORT&H Specification for GSB
	9.5	2042.68	18.81	48.07	51.93	35-65	
	4.75	1456.28	13.41	61.48	38.52	25-50	
	2.36	2267.89	20.89	82.37	17.63	10-20	
	0.85	1235.65	11.38	93.75	6.25	2-10	
	0.425	423.25	3.90	97.65	2.35	0-5	

esults indicated above are based on the tests carried out on the sample at site.
esults relate only to the items tested.
test report should not be reproduced except in full, without written approval of this laboratory.
query regarding the report must be reported immediately.

lez Core Technologies Private Limited

gnature

AR-09

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

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MECADEZ CORE TECHNOLOGIES PRIVATE LIMITED
PROJECT MANAGEMENT CONSULTANCY SERVICES

Test Report
Liquid and Plastic Limit by Cone Apparatus

ject Name	Package No.06 Consists of 14 Works
ent	Excecutive Engineer - Byatarayanapura Division
o No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
l Type	Granular Sub Base (GSB)
ractor	M/s SMLP Asphalts, Prop.Sri B B Umesha
Method	Specification for Road & Bridge Works, MORT&H, Rev. V.
ation	At Laboratory
erial	Coarse Aggregates
ple No	1
ple lected Date	1-Dec-2022
ted Date	2-Dec-2022

Sl No	Description	Unit	Liquid Limit	Plastic Limit
	Penetration	mm	Non Plastic	Non Plastic
1	Container No	no		
2	Weight of container,(A)	gm		
3	Weight of container + wet soil, (B)	gm		
4	Weight of container + dry soil, (C)	gm		
5	Weight of water, D=(B - C)	gm		
6	Weight of dry soil, E=(C - A)	gm		
7	Water Content, D/E x 100 (%)	gm		

Comments: <6 so Non Plastic

Note:

i. The results indicated above are based on the tests carried out on the sample at site.
ii. The results relate only to the items tested.
iii. This test report should not be reproduced except in full, without written approval of this laboratory.
iv. Any query regarding the report must be reported immediately.

For Mecadez Core Technologies Private Limited

Authorised Signature

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

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MECADEZ CORE TECHNOLOGIES PRIVATE LIMITED
PROJECT MANAGEMENT CONSULTANCY SERVICES

Test Report
Field Density Test by Sand Replacement Method

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
Mix Type	Granular Sub Base (GSB)
Contractor	M/s SMLP Asphalts, Prop.Sri B B Umesha
Test Method	IS: 2720 (Part - 16) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	At Laboratory
Material	Granular Sub Base (GSB)
Sample No	1
Tested Date	5-Dec-2022

Test Hole No	1
MDD	2.23
OMC in %	5.20
Bulk Density Ys	1.39
Weight of Sand In cone W1 (gm)	1195.00
Weight Of Wet soil From Hole (W2)	4379.00
Wt Of Sand +Cylinder Before Pouring (W3)gm	17000.00
Wt Of Sand +Cylinder After Pouring (W4) gm	13169.00
Wt Of Sand In Hole: W5 = W3 - W4- W1 (gm)	2636.00
Volume of Hole: V= W5/ Ys	1893.68
Bulk Density Yb= W2/V (gm/cc)	2.31
Moisture Meter Reading (%)	4.20
Moisture Content : w (From Graph In %)	-
Dry Density Yd = Yb/(1+W/100)	2.22
Field Compaction(%)	99.52

i. The results relate only to the items tested.
ii. The results relate only to the items tested.
iii. This test report should not be reproduced except in full, without written approval of this laboratory.
iv. Any query regarding the report must be reported immediately.

For Mecadez Core Technologies Private Limited

Authorised Signature

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

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Summary of Frequencies of Field Tests and Lab Tests Conducted

Name of the work: Package No.06 Consists of 14 Works

Job No: MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR

Contractor M/s SMLP Asphalts, Prop.Sri B B Umesha

Sl. No	Particulars of the Tests	Dry Leand Cement Concrete (1:5:10)			
		Quantity Cum	Frequency of Tests	Tests Required	Tests Carried Out
I	**Cement**	140.96	OPC53 Grade		
1	Compressive strength test				
i	7-days		3 Samples /1000 sqm	1	1
ii	28-days		3 Samples /1000 sqm	1	1
II	**Fine Aggregates**				
2	Gradation test		1Test / Day	1	1
III	**Coarse aggregates**				
3	Gradation test		1Test / Day	1	1
4	Water absorption test		Regular Intervals	1	1
5	Impact test		1Test / Source of Supply	1	1

Note: Frequency of tests as per Specifications MORT&H, V Revision, Section 900.

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consultant

contractor

ASSISTANT ENGINEER

Assistant Executive Engineer
Vidyaranyapura Sub Division
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Test Report
Compressive strength test

[illegible]	Package No.06 Consists of 14 Works
[illegible]	Executive Engineer Vidyaranyapura Division
[illegible]	[illegible]/2022-23/QR
[illegible]	Dry Lean Cement Concrete (1:5:10)
[illegible]	[illegible] Asphalts, Prop.Sr. B B Umesha
[illegible]	[illegible] (part 6) 1988 & Specification for Road & Bridge Works, MORT&H, Rev. V
[illegible]	Source of Material
[illegible]	Cement
[illegible]	[illegible]
[illegible]	[illegible]-Dec-2022
[illegible]	[illegible]-Dec-2022

[illegible]	Cement Grade	Age at Test (Days)	Slump (mm)	Weight (kg)	Dimension (LxWxH)	Density (kg/m3)	Max. Load (KN)	Area (mm2)	Compressive Strength (N/mm2)	Average Sample (n/mm2)
	53	7	-	0.894	70.6x70.6x70.6	2540.52	204	4984.36	40.93	41.13
	53	7	-	0.893	70.6x70.6x70.6	2537.68	206	4984.36	41.33	

[illegible] Compressive strength of cement is 41.13 N/mm2

[illegible] 7-days Compressive strength of cement should not be less than 40N/mm^2

[illegible] indicated above are based on the tests carried out on the sample at site.
[illegible] relate only to the items tested.
[illegible] report should not be reproduced except in full, without written approval of this [illegible] regarding the report must be reported immediately.

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[illegible] Signature

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MECADEZ CORE TECHNOLOGIES PRIVATE LIMITED
PROJECT MANAGEMENT CONSULTANCY SERVICES

Test Report
Compressive strength test

Name	Package No.06 Consists of 14 Works
	Excecutive Engineer - Byatarayanapura Division
	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
	Dry Leand Cement Concrete (1:5:10)
	M/s SMLP Asphalts, Prop.Sri B B Umesha
	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
	Source of Material
	Cement
No	1
Date	9-Dec-2022
Date	6-Jan-2023

	Cement Grade	Age at Test (Days)	Slump (mm)	Weight (kg)	Dimension (LxWxH)	Density (kg/m3)	Max. Load (KN)	Area (mm2)	Compressive Strength (N/mm2)	Average Sample (n/mm2)
	53	28	-	0.895	70.6x70.6x70.6	2543	267	4984.36	53.57	54.47
	53	28	-	0.862	70.6x70.6x70.6	2449.6	276	4984.36	55.37	

28-days Compressive strength of cement is 54.47 N/mm2

28-days Compressive strength of cement should not be less than 53N/mm^2

The results indicated above are based on the tests carried out on the sample at site.
The results relate only to the items tested.
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Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

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MECADEZ CORE TECHNOLOGIES PRIVATE LIMITED

Test Report
Gradation test

Name	Package No.06 Consists of 14 Works
	Excecutive Engineer - Byatarayanapura Division
	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
	Dry Leand Cement Concrete (1:5:10)
	M/s SMLP Asphalts, Prop.Sri B B Umesha
Method	IS : 2386 (Part - 1) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
	Source of Material
	Fine Aggregates
No	1
	5-Dec-2022
Date	9-Dec-2022

Weight of Sample(gram): 200

No.	IS Sieve Size	Weight retained	% retained	% Cumulative	Cumulative % of Passing		Remarks
					% Passing	Gradation limits	
	10 mm	0.00	0.00	0.00	100.00	100	Gradation satisfies the MORT&H Zone II Specification
	4.75 mm	13.48	6.74	6.74	93.26	90-100	
	2.36 mm	20.14	10.07	16.81	83.19	75-100	
	1.18 mm	25.47	12.74	29.55	70.46	55-90	
	600 µ	42.96	21.48	51.03	48.98	35-59	
	300 µ	62.94	31.47	82.50	17.51	8-30	
	150 µ	23.67	11.84	94.33	5.67	0-10	

The results indicated above are based on the tests carried out on the sample at site.

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PROJECT MANAGEMENT CONSULTANCY SERVICES

Test Report
Gradation test

Name	Package No.06 Consists of 14 Works
	Excecutive Engineer - Byatarayanapura Division
	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
Type	Dry Leand Cement Concrete (1:5:10)
ctor	M/s SMLP Asphalts, Prop.Sri B B Umesha
Method	IS : 2386 (Part - 1) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
	Source of Material
	Coarse aggregates
e No	1
Collection	5-Dec-2022
Date	6-Dec-2022

t of Sample: 4000 gms

I.S. Sieve size	Weight Retained (gm)	Percentage of weight Retained (%)	Cumulative Percentage of weight retained (%)	Cumulative % of Passing		Remarks
				Test Result	Gradation Limits as per MORT&H	
31.50	0.00	0.00	0.00	100.00	100	Gradation satisfies the MORT&H Zone II Specification
26.50	419.57	10.49	10.49	89.51	85-95	
19.00	564.69	14.12	24.61	75.39	68-88	
9.50	787.64	19.69	44.30	55.70	45-65	
4.75	579.6	14.49	58.79	41.21	30-55	
0.60	1029.5	25.74	84.53	15.48	8-30	
0.15	318.6	7.97	92.49	7.51	5-15	
0.08	229.6	5.74	98.23	1.77	0-5	

The results indicated above are based on the tests carried out on the sample at site.

results relate only to the items tested.
test report should not be reproduced except in full, without written approval of this laboratory.
query regarding the report must be reported immediately.

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Test Report
Water absorption test

Name	Package No.06 Consists of 14 Works
	Excecutive Engineer - Byatarayanapura Division
	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
	Dry Leand Cement Concrete (1:5:10)
	M/s SMLP Asphalts, Prop.Sri B B Umesha
thod	IS : 2386 (Part - 3) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V
	Source of Material
	Coarse aggregates
No	1
Date	5-Dec-2022
Date	6-Dec-2022

Particulars	Computations	Test Numbers		Mean
		Test 1	Test 2	
Weight of SSD sample	W_1 g	761	763	
Wt of Basket Filled with Aggregates Immersed in water	W_2g	2046	2079	
Weight of Saturated Aggregate in water	$W_s g = W_2 - W_1$	1285	1316	
Weight of saturated surface dry aggregate in Air	W_3 g	2081	2104	
Weight of water equal to the Volume of the Aggregate	$W_3 - W_s$	796	788	
Weight of Oven dried Aggregate	W_4g	2042	2069	
Specific Gravity	$W_4/(W_3 - W_s)$	2.57	2.63	2.60
Apparent Specific Gravity	$W_4/(W_4 - W_s)$	2.70	2.75	2.72
Water Absorption	$(W_4 - W_3)*100/W_4$	1.91	1.69	1.80

nents: Maximum allowable Aggregate Water Absorption value for PCC is 2.0%.

The results indicated above are based on the tests carried out on the sample at site.

e results relate only to the items tested.

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ny query regarding the report must be reported immediately.

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Test Report
Impact test

me	Package No.06 Consists of 14 Works
	Excecutive Engineer - Byatarayanapura Division
	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
	Dry Leand Cement Concrete (1:5:10)
r	M/s SMLP Asphalts, Prop.Sri B B Umesha
od	IS : 2386 (Part - 4) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
	Source of Material
	Coarse aggregates
	1
Date	5-Dec-2022
te	6-Dec-2022

o.	Determination	Unit	Trails	
	Weight of empty cylinder, w1	gm	960	960
	Weight of container filled with Aggregate, w2	gm	1325	1333
	Weight of the Aggregate before compaction, (w2 - w1) = w3	gm	365	373
	Weight of the sample passing through 2.36 mm IS sieves after Impact, w4	gm	90	91
	Weight of the sample retained on 2.36 mm IS sieve after Impact, w5	gm	275	282
	Aggregate Impact Value (w4 / w3)x100	%	24.66	24.40
	Specified Limit	%	45.00	

Results: Average Aggregate Impact Value: **24.53** %

indicated above are based on the tests carried out on the sample at site.
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l Signature

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

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Team For You

Temperature Record Log Sheet

Project Name Package No.06 Consists of 14 Works
Client Excecutive Engineer - Byatarayanapura Division
Job No MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
Mix Type Dense Graded Bituminous Macadam(DBM)
Contractor M/s.SMLP Asphalts,Prop. Sri B B Umesha,
Date 3-Mar-2023

Sl No	Tipper No	Time	Cleaning of the Surface	Application of Tackcoat	Mix Laying Temperature (C^0)	Mix Rolling Temperature (C^0)	Depth of the Mix Before Rolling (mm)	Depth of the Mix After Rolling (mm)	Remarks
1	KA05AL3345	9.10AM	Yes	Yes	142.5	90.4	67	50	
2	KA44A3345	9.55AM	Yes	Yes	143.2	93.1	66	50	
1	KA05AL3345	10.56AM	Yes	Yes	142.5	90.4	67	50	

Mecade Core Technologies Private Limited

Consultant Representative
BBMP

Asst Engineer
Byatarayanapura Division
BBMP

Asst.Executive Engineer
Assistant Executive Engineer
Byatarayanapura Division
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

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